

Chas. Beam

**BRIEF
PASSENGER
CAR
DATA**
—1952—



ETHYL CORPORATION



BRIEF PASSENGER CAR DATA

1952

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NOTICE

The specifications and adjustments contained in this booklet have been compiled by the Technical Service Division of the Research Laboratories of the Ethyl Corporation from information supplied by manufacturers of motor cars, ignition apparatus, spark plugs, etc. None of this information represents the results of tests at the Research Laboratories of the Ethyl Corporation.

This information covers the essential characteristics, in ready reference form, of the 1952 passenger car models. It is correct at date of publication, but changes may be made from time to time by motor car manufacturers.

Data on horsepower, torque, compression pressure, etc., are that given by the manufacturer. Methods and technique of testing differ in various engineering departments, so these data are frequently not comparable for different makes of cars.

GENERAL NOTES

Valves

Valve tappet clearances are extremely important. Frequent checking of valve tappet clearances will add materially to the proper functioning and long life of valves. Clearances given on the specification sheets are for normal driving conditions. For heavy duty, such as heavy loads or high speed, it may be desirable to give additional clearance.

Spark Plugs

The spark plug installed and recommended by the factory is shown first in the specifications with the corresponding AC, Auto-Lite or Champion spark plug shown as an alternate. These plugs are designed for average driving conditions. For heavy duty or high speed driving, it may be necessary to use a colder plug in order to obtain satisfactory spark plug life. The necessity for a colder plug is indicated by rapid electrode wear and, in extreme cases, splitting and cracking away of the insulator.

It is sometimes necessary to change to a plug which is hotter than the factory equipment plug for very light service, especially in metropolitan areas. If an engine is not pumping oil and the ignition system is in good condition but the spark plug consistently fouls with excessive carbon deposit—the need for a hotter plug is indicated.

Periodic cleaning of spark plugs by means of an efficient spark plug cleaner is often advantageous.

Spark plug gaps should be set and maintained at factory setting—pitted points should be cleaned and, if badly pitted, replaced. Incorrectly set breaker points will affect ignition timing and ignition output.

Ignition Timing

Ignition timing is given in crankshaft degrees and is factory setting. Almost all distributors are provided with some type of adjustment enabling the ignition timing to be reset without disturbing the calibration of the distributor advance mechanism. Retarded ignition timing will eliminate or reduce detonation but will result in decreased performance and fuel economy. Also, in most cases, an ignition setting somewhat in advance of the factory setting will result in additional performance and economy, although such an ignition setting will require a fuel of higher antiknock value than the standard setting.

Carburetors

Carburetors should not be adjusted or jets changed except by qualified mechanics. Correct fuel (or float) levels are extremely important to satisfactory performance and fuel economy—factory specifications should be strictly maintained.

LIST OF ABBREVIATIONS

AA	Aluminum Alloy (cylinder heads & pistons)
AC	AC Spark Plug Division, GMC
Adv	Advance
AI	Aluminum Industries (valves)
AL	The Electric Auto-Lite Company
AMA	Automobile Manufacturers Association
ATC	After Top Center
BTC	Before Top Center
Bmep	Brake mean effective pressure
ByP	By Pass (oil filter)
C	Cold (valve adjustment)
Car	Carter (carburetors)
Centrif	Centrifugal
Champ	Champion Spark Plug Company
Clr	Clearance
CNA	Chrome Nickel Alloy Iron
Comp Press	Compression Pressure
Cr Sp	Cranking Speed
DD	Downdraft
Deg	Degrees
Dup	Duplex
Eaton	Eaton Mfg. Company (valves)
Eng	Engine
Eqpt	Equipment
Exh	Exhaust
F	F-head
FF	Full Flow (oil filter)
H	Hot (valve adjustment)
HP	Horsepower
Hyp	Hypoid (rear axle gearing)
Hyd Lifters	Hydraulic Lifters
I	In-head (overhead valves)
Int	Intake
L	L-head
Max	Maximum
No. Cyl	Number of cylinders
OD	Overdrive
Recm Press	Recommended Pressure (tires)
Rich	Rich Manufacturing Company (valves)
RP	Rochester Products (carburetors)
RE	Replaceable Element (oil filter)
RU	Replaceable Unit (oil filter)
SB	Spiral Bevel
Sil	Silchrome
Sgl	Single
Std	Standard
Strom	Stromberg Carburetor Company
TDC	Top Dead Center
TP	Thompson Products, Inc. (valves)
Trans	Transmission
Vac	Vacuum

SUMMARY OF CHARACTERISTICS

1952 PASSENGER CARS

	1951	1952	Change
Number of Makes.....	21	20	-1
Number of Models.....	62	60	-2
ENGINE CHARACTERISTICS:			
Average Standard Compression Ratio.....	7.07	7.18	+0.11
Average Optional Higher Compression Ratio...	7.59	7.68	+0.09
No. of Optional Higher Compression Ratios.....	18	11	-7
Highest Standard Compression Ratio.....	8.00	8.00	-
Lowest Standard Compression Ratio	6.48	6.60	+0.12
Highest Optional Compression Ratio.....	10.00	10.00	-
Average Displacement	247.7	249.5	+1.8
Average Maximum Brake Horsepower.....	116.2	122.1	+5.9
Average RPM at Maximum Horsepower.....	3745	3802	+57
Average Horsepower Per Cubic Inch.....	.471	.489	+0.018
Average Brake Mean Effective Pressure, lb/sq in	125.0	126.9	+1.9
Maximum Horsepower Per Cubic Inch.....	.580	.580	-
Lowest Horsepower Per Cubic Inch.....	.401	.418	+0.017
Average lb/HP—5 Passenger Sedan.....	30.35	29.45	-0.90
Rated Horsepower With Standard Compression Ratio:			
Under 75	5	3	-2
75-99	14	12	-2
100-149	30	30	-
150-199	13	15	+2
Piston Materials:			
Aluminum Alloy	54	52	-2
Cast Iron or Steel Alloy.....	8	8	-
	62	60	

BUICK

CAR MODEL	Series 40 Synchromesh	Series 40 Dynaflow
ENGINE		
No. Cyl-Head Type.....	8-I	8-I
Bore and Stroke (in).....	3-3/16x4-1/8	3-3/16x4-1/8
Displacement (cu in).....	263.3	263.3
AMA Horsepower.....	32.51	32.51
Max Horsepower @ rpm.....	120 @ 3600	128 @ 3600
Max Torque, lb-ft @ rpm.....	215 @ 2000	225 @ 2000
Max bmep, lb/sq in.....	123.0	129.0
Head Material.....	Cast Iron	Cast Iron
Compression Ratio.....	6.60	7.20
Comp Press, lb/sq in @ rpm.....	114 @ CR Sp	120 @ Cr Sp
Piston Material.....	AA	AA
Bearing Material.....	Steel Backed Durex	
IGNITION		
Spark Plug—Factory Eqpt.....	AC 46X	AC 46X
Alternate.....	Champion J-11, AL A9	
Spark Plug Gap.....	.025"	.025"
Breaker Gap.....	.015"	.015"
Cam Angle.....		
Firing Order.....	1-6-2-5-8-3-7-4	1-6-2-5-8-3-7-4
Timing—Crankshaft Degrees.....	4° BTC	4° BTC
Adv Deg—Centrif—Vac.....	26-14	26-14
Adv Begins—Ends—Eng rpm....	500-3350	500-3350
VALVES		
Make and Material.....Int	TP or Eaton or Rich 3140	
Exh	TP or Eaton or Rich XCR or 2112N	
Tappet Clr—Seat Angle.....Int	.015" H, 45°	Hydraulic Lifters, 45°
Exh	.015" H, 45°	Hydraulic Lifters, 45°
Exhaust Seat Inserts.....	None	None
CARBURETOR		
Make, Model.....	(1)	(1)
Size, Type.....	1-1/8" Dual DD	1-1/8" Dual DD
Float Level.....	(2)	(2)
Choke Control.....	Automatic	Automatic
ENGINE LUBRICATION		
Oil—Summer—Winter—SAE....	See Buick Instruction Book	
Normal Oil Press—lb @ mph....	35 @ 35	35 @ 35
Oil Filter—Type.....	FF(3), RE	FF(3), RE
CAPACITY		
Oil.....(qt)	5-1/2 (4)	5-1/2 (4)
Water.....(qt)	12 (5)	13-1/2 (5)
Transmission.....(pt)	1-3/8	(6)
Rear Axle.....(pt)	3	3
Gasoline.....(gal)	19	19
GENERAL DATA (5 Passenger Sedan)		
Wheelbase.....(in)	121-1/2	121-1/2
Over-all Lgth Incl Bumpers.....(in)	204-3/4	204-3/4
Shipping Weight.....(lb)	3665	3763
Tire Size—Recm Press.....(lb)	7.60x15-24-24	7.60x15-24-24
Rear Axle Ratio—Type.....	3.9 (7)	3.6 (8)
LOCATION CHASSIS SERIAL NO. Inside Left Front Windshield Pillar Post		

- (1) Stromberg AAUVB-267 or Carter WCD-882S.
- (2) Upon removal of sight plug with engine idling, fuel level should be just high enough to wet threads at lower side of inspection hole.
- (3) Oil filter full flow to rocker arms only.
- (4) Add 1-1/2 quarts for dry oil filter.
- (5) Add 1-1/2 quarts for heater.
- (6) Dynaflow requires 8-1/2 quarts for refill—plus 1-3/4 pints if completely dry.
- (7) 3.6 optional.
- (8) 3.9 optional.

BUICK

CAR MODEL	Series 50 Synchromesh	Series 50 Dynaflow	Series 70 Dynaflow
ENGINE			
No. Cyl-Head Type.....	8-I	8-I	8-I
Bore and Stroke (in).....	3-3/16x4-1/8	3-3/16x4-1/8	3-7/16x4-5/16
Displacement (cu in).....	263.3	263.3	320.2
AMA Horsepower.....	32.51	32.51	37.81
Max Horsepower @ rpm.....	124 @ 3600	128 @ 3600	170 @ 3800
Max Torque, lb-ft @ rpm.....	220 @ 2000	225 @ 2000	280 @ 2400
Max bmep, lb/sq in.....	126.2	129.0	131.8
Head Material.....	Cast Iron	Cast Iron	Cast Iron
Compression Ratio.....	6.90	7.20	7.5
Comp Press, lb/sq in @ rpm.....	118 @ Cr Sp	120 @ Cr Sp	120 @ Cr Sp
Piston Material.....	AA	AA	AA
Bearing Material.....		Steel Backed Durex	
IGNITION			
Spark Plug—Factory Eqpt.....	AC 46X	AC 46X	AC 46X
Alternate.....		Champion J-11, AL A9	
Spark Plug Gap.....	.025"	.025"	.025"
Breaker Gap.....	.015"	.015"	.015"
Cam Angle.....			
Firing Order.....		1-6-2-5-8-3-7-4	
Timing—Crankshaft Degrees... 4° BTC		4° BTC	6° BTC
Adv Deg—Centrif—Vac.....	26-14	26-14	26-14
Adv Begins—Ends—Eng rpm....	500-3350	500-3350	500-3350
VALVES			
Make and Material.....Int		TP or Eaton or Rich 3140	
Exh.....		TP or Eaton or Rich XCR or 2112N	
Tappet Clr—Seat Angle.....Int		Hydraulic Lifters, 45°	
Exh.....		Hydraulic Lifters, 45°	
Exhaust Seat Inserts.....	None	None	None
CARBURETOR			
Make, Model.....	(1)	(1)	(2)
Size, Type.....	1-1/8" Dual DD	1-1/8" Dual DD	DD 4 Barrel
Float Level.....	(3)	(3)	(3)
Choke Control.....	Automatic	Automatic	Automatic
ENGINE LUBRICATION			
Oil—Summer—Winter—SAE....		See Buick Instruction Book	
Normal Oil Press—lb @ mph....	35 @ 35	35 @ 35	35 @ 35
Oil Filter—Type.....	FF(4), RE	FF(4), RE	FF(4), RE
CAPACITY			
Oil.....(qt)	5-1/2 (5)	5-1/2 (5)	7 (5)
Water.....(qt)	12 (6)	13-1/2 (6)	18 (6)
Transmission.....(pt)	1-3/8	(7)	(8)
Rear Axle.....(pt)	3	3	3
Gasoline.....(gal)	19	19	19
GENERAL DATA (5 Passenger Sedan)			
Wheelbase.....(in)	125-1/2	125-1/2	130-1/4
Over-all Lgth Incl Bumpers. (in)	210-1/4	210-1/4	215
Shipping Weight.....(lb)	3825	3923	4285
Tire Size—Recm Press.....(lb)	7.60x15-24-24	7.60x15-24-24	8.00x15-24-24
Rear Axle Ratio—Type.....	4.1 (9)	3.9 (10)	3.6 (9)
LOCATION CHASSIS SERIAL NO. Inside Left Front Windshield Pillar Post			
(1) Stromberg AAUVB-267 or Carter WCD-882S.			
(2) Stromberg 4AUV-267 or Carter WCFB-894S.			
(3) Upon removal of sight plug with engine idling, fuel level should be just high enough to wet threads at lower side of inspection hole.			
(4) Oil filter full flow to rocker arms only.			
(5) Add 1-1/2 quarts for dry oil filter.			
(6) Add 1-1/2 quarts for heater.			
(7) Dynaflow requires 8-1/2 quarts for refill—plus 1-3/4 pints if completely dry.			
(8) Dynaflow requires 10 quarts for refill—plus 1-3/4 pints if completely dry.			
(9) 3.9 optional.			
(10) 3.6 optional.			

CADILLAC

CAR MODEL	62	60 Special	75
ENGINE			
No. Cyl-Head Type.....	V-8-I	V-8-I	V-8-I
Bore and Stroke (in).....	3-13/16x3-5/8	3-13/16x3-5/8	3-13/16x3-5/8
Displacement (cu in).....	331	331	331
AMA Horsepower.....	46.5	46.5	46.5
Max Horsepower @ rpm.....	190 @ 4000	190 @ 4000	190 @ 4000
Max Torque, lb-ft @ rpm.....	322 @ 2400	322 @ 2400	322 @ 2400
Max bmep, lb/sq in.....	146.6 @ 2400	146.6 @ 2400	146.6 @ 2400
Head Material.....	Cast Iron	Cast Iron	Cast Iron
Compression Ratio.....	7.5	7.5	7.5
Comp Press, lb/sq in @ rpm....	194 @ 1000	194 @ 1000	194 @ 1000
Piston Material.....	AA	AA	AA
Bearing Material.....		Steel Backed Durex	

IGNITION			
Spark Plug—Factory Eqpt.....	AC 48X	AC 48X	AC 48X
Alternate.....		Champion J-11, AL A9	
Spark Plug Gap.....	.035"	.035"	.035"
Breaker Gap.....	.010" to .015"	.010" to .015"	.010" to .015"
Cam Angle.....	31° ± 1-1/2°	31° ± 1-1/2°	31° ± 1-1/2°
Firing Order.....		1-8-4-3-6-5-7-2	
Timing—Crankshaft Degrees...	5° BTC	5° BTC	5° BTC
Adv Deg—Centrif—Vac.....	32-20-1/2	32-20-1/2	32-20-1/2
Adv Begins—Ends—Eng rpm....	800-3700	800-3700	800-3700

VALVES			
Make and Material.....Int		Rich 3140	
Exh.....		Eaton Sil X-10 or Rich 2112N	
Tappet Clr—Seat Angle.....Int		Hydraulic Lifters, 44°	
Exh.....		Hydraulic Lifters, 44°	
Exhaust Seat Inserts.....	None	None	None

CARBURETOR			
Make, Model.....	Carter WCFB 896S or Rochester 4GC		
Size, Type.....	1-1/4" DD 4 Barrel		
Float Level.....	(1)		
Choke Control.....	Automatic	Automatic	Automatic

ENGINE LUBRICATION			
Oil—Summer—Winter—SAE....	See Cadillac Instruction Book		
Normal Oil Press—lb @ mph....	30-35 @ 30	30-35 @ 30	30-35 @ 30
Oil Filter—Type.....	None	None	None

CAPACITY			
Oil.....(qt)	5	5	5
Water.....(qt)	19	19	19
Transmission.....(pt)	21	21	3-3/4 (2)
Rear Axle.....(pt)	5	5	5
Gasoline.....(gal)	20	20	20

GENERAL DATA (5 Passenger Sedan)			
Wheelbase.....(in)	126	130	146-3/4
Over-all Lgth Incl Bumpers.(in)	215-1/2 (3)	224-1/2	236-1/4
Shipping Weight.....(lb)	4125	4275	4695 (4)
Tire Size—Recm Press.....(lb)	8.00x15-24-24	8.00x15-24-24	8.20x15-28-28
Rear Axle Ratio—Type.....	3.36 or 3.07	3.36 or 3.07	3.77

LOCATION CHASSIS SERIAL NO. Right Frame Sidebar, Behind Engine Bracket

- (1) Rochester 4GC—1-3/8" from bowl cover gasket to bottom of float. Carter WCFB 896S—Distance from bowl cover to float is 1/4" at front of float, 5/16" at rear.
- (2) Hydra-Matic requires 21 pints for refill, 24 pints dry.
- (3) Overall length of Coupe, Coupe DeVille and Convertible is 220-1/2".
- (4) Add 90 pounds when equipped with Hydra-Matic.

CHEVROLET

CAR MODEL	Special & Deluxe Synchromesh	Deluxe Powerglide
ENGINE		
No. Cyl-Head Type.....	6-I	6-I
Bore and Stroke (in).....	3-1/2x3-3/4	3-9/16x3-15/16
Displacement (cu in).....	216.5	235.5
AMA Horsepower.....	29.4	30.4
Max Horsepower @ rpm.....	92 @ 3400	105 @ 3600
Max Torque, lb-ft @ rpm.....	176 @ 1000-2000	193 @ 2000
Max bmep, lb/sq in.....	122.5	123.8
Head Material.....	Cast Alloy Iron	Cast Alloy Iron
Compression Ratio.....	6.6 (1)	6.7 (1)
Comp Press, lb/sq in @ rpm....	110 @ 125 (Engine hot)	
Piston Material.....	Cast Alloy Iron	Cast Alloy Iron
Bearing Material.....	Steel Backed Thin Wall Babbitt	
IGNITION		
Spark Plug—Factory Eqpt.....	AC 46-5	AC 46-5
Alternate.....	(2)	(2)
Spark Plug Gap.....	.035"	.035"
Breaker Gap.....	.015" to .022"	.015" to .022"
Cam Angle.....	39°	39°
Firing Order.....	1-5-3-6-2-4	1-5-3-6-2-4
Timing—Crankshaft Degrees...	5° BTC	5° BTC
Adv Deg—Centrif—Vac.....	36-20	31-20
Adv Begins—Ends—Eng rpm....	675-3450	600-3700
VALVES		
Make and Material.....Int	Silchrome or Nickel Chrome Steel	
Exh.....	Silchrome Steel	
Tappet Clr—Seat Angle.....Int	.006"H, 30°	Hyd Lifters, 30°
Exh.....	.013"H, 45°	Hyd Lifters, 45°
Exhaust Seat Inserts.....	None	None
CARBURETOR		
Make, Model.....	RP 7004477	RP 7003526
Size, Type.....	1-1/4" Sgl DD	1-1/2" Sgl DD
Float Level.....	1-9/32" (3)	1-9/32" (3)
Choke Control.....	Manual	Automatic
ENGINE LUBRICATION		
Oil—Summer—Winter—SAE....	See Chevrolet Instruction Book	
Normal Oil Press—lb @ mph....	14 @ 39	14 @ 2000
Oil Filter—Type.....	None	None
CAPACITY		
Oil.....(qt)	5 (refill)	5 (refill)
Water.....(qt)	15	15
Transmission.....(pt)	1-1/2	9 quarts (refill)
Rear Axle.....(pt)	3-1/2	3-1/2
Gasoline.....(gal)	16	16
GENERAL DATA (5 Passenger Sedan)		
Wheelbase.....(in)	115	115
Over-all Lgth Incl Bumpers.(in)	198-1/8	198-1/8
Shipping Weight.....(lb)	3120 (Special)	3300
Tire Size—Recm Press.....(lb)	6.70x15-24-24	6.70x15-24-24
Rear Axle Ratio—Type.....	4.11 Hyp	3.55 Hyp
LOCATION CHASSIS SERIAL NO.		
	Left Front Body Hinge Pillar	

- (1) No optional compression ratio.
- (2) Champion's recommendation is J-11; Auto-Lite's is A9.
- (3) From cover surface to bottom of float.
- (4) 3160 pounds for Deluxe.

CHRYSLER

CAR MODEL	Windsor C-51	Saratoga C-55
ENGINE		
No. Cyl-Head Type.....	6-L	V-8-I
Bore and Stroke (in).....	3-7/16x4-3/4	3-13/16x3-5/8
Displacement (cu in).....	264.5	331.1
AMA Horsepower.....	28.36	46.5
Max Horsepower @ rpm.....	119 @ 3600	180 @ 4000
Max Torque, lb-ft @ rpm.....	218 @ 1600	312 @ 2000
Max bmep, lb/sq in.....	124.0	142.0
Head Material.....	Cast Iron	Cast Iron
Compression Ratio.....	7.0	7.5
Comp Press, lb/sq in @ rpm....	120-150 @ 150	135-165 @ 150
Piston Material.....	AA	AA — Steel Strut
Bearing Material.....	Steel Backed Lead Base Babbitt	
IGNITION		
Spark Plug—Factory Eqpt.....	AL AR8	AL 4S-140
Alternate.....	AC 46, Champ J-8	AC 46, Champ J-8
Spark Plug Gap.....	.035"	.035"
Breaker Gap.....	.018" to .020"	.015" to .018"
Cam Angle.....	34-1/2° to 38°	32° to 36° (1)
Firing Order.....	1-5-3-6-2-4	1-8-4-3-6-5-7-2
Timing—Crankshaft Degrees...	2° BTC	4° BTC
Adv Deg—Centrif—Vac.....	20-18	22-23
Adv Begins—Ends—Eng rpm....	700-2850	800-3550
VALVES		
Make and Material.....	Int Silicon — Chromium Steel Exh Silicon — Chromium Steel	
Tappet Clr—Seat Angle.....	Int .008" H, 45° Exh .010" H, 45°	Hyd Lifters, 45° Hyd Lifters, 45°
Exhaust Seat Inserts.....	Yes	Yes
CARBURETOR		
Make, Model.....	Ball & Ball (Car)	Car WCD 830S
Size, Type.....	1-1/2" Sgl DD	1-1/4" Dual DD
Float Level.....	5/64" (2)	11/64" (3)
Choke Control.....	Automatic	Automatic
ENGINE LUBRICATION		
Oil—Summer—Winter—SAE....	See Chrysler Instruction Book	
Normal Oil Press—lb @ mph....	50 @ 45	60 @ 50
Oil Filter—Type.....	FF, RE	FF, RE
CAPACITY		
Oil.....(qt)	5	5
Water.....(qt)	15	25
Transmission.....(pt)	2-3/4 (4, 5)	3 (5)
Rear Axle.....(pt)	3-1/4	3-1/2
Gasoline.....(gal)	17	20
GENERAL DATA (5 Passenger Sedan)		
Wheelbase.....(in)	125-1/2	125-1/2
Over-all Lgth Incl Bumpers.(in)	207-3/4	207-3/4
Shipping Weight.....(lb)	3660 (6)	4010
Tire Size—Recm Press.....(lb)	7.60x15-24-24	8.00x15-24-24
Rear Axle Ratio—Type.....	3.9 Hyp (7)	3.36, 3.54 or 3.73 Hyp (8)

LOCATION CHASSIS SERIAL NO. Left Front Door Body Hinge Post

- (1) Two-breaker point distributor; 26° to 28° dwell for each breaker.
- (2) From top of float chamber to top of float.
- (3) Between machined surface of float chamber cover and nearest point on float.
- (4) 3 pints refill when equipped with the Fluid-Matic Drive.
- (5) If equipped with torque converter, torque converter unit capacity 10-1/2 quarts.
- (6) Windsor Deluxe weighs 3775 pounds.
- (7) 3.9 for Fluid-Matic Drive; 3.73 for Fluid-Torque Drive.
- (8) For Fluid-Matic Drive or Fluid-Torque Drive.

CHRYSLER

CAR MODEL	New Yorker C-52	Imperial C-54	Crown Imperial C-53
ENGINE			
No. Cyl-Head Type.....	V-8-I	V-8-I	V-8-I
Bore and Stroke (in).....	3-13/16x3-5/8	3-13/16x3-5/8	3-13/16x3-5/8
Displacement (cu in).....	331.1	331.1	331.1
AMA Horsepower.....	46.5	46.5	46.5
Max Horsepower @ rpm.....	180 @ 4000	180 @ 4000	180 @ 4000
Max Torque, lb-ft @ rpm.....	312 @ 2000	312 @ 2000	312 @ 2000
Max bmep, lb/sq in.....	142.0	142.0	142.0
Head Material.....	Cast Iron	Cast Iron	Cast Iron
Compression Ratio.....	7.5	7.5	7.5
Comp Press, lb/sq in @ rpm....	135-165 @ 150	135-165 @ 150	135-165 @ 150
Piston Material.....	AA — Steel Strut		
Bearing Material.....	Steel Backed Lead Base Babbitt		
IGNITION			
Spark Plug—Factory Eqpt.....	AL 4S-140	AL 4S-140	AL 4S-140
Alternate.....	AC 46, Champ J-8	AC 46, Champ J-8	AC 46, Champ J-8
Spark Plug Gap.....	.035"	.035"	.035"
Breaker Gap.....	.015" to .018"	.015" to .018"	.015" to .018"
Cam Angle.....	32° to 36° (1)	32° to 36° (1)	32° to 36° (1)
Firing Order.....	1-8-4-3-6-5-7-2	1-8-4-3-6-5-7-2	1-8-4-3-6-5-7-2
Timing—Crankshaft Degrees....	4° BTC	4° BTC	4° BTC
Adv Deg—Centrif—Vac.....	22-23	22-23	22-23
Adv Begins—Ends—Eng rpm....	800-3550	800-3550	800-3550
VALVES			
Make and Material.....Int	Silicon — Chromium Steel		
Exh.....	Silicon — Chromium Steel		
Tappet Clr—Seat Angle.....Int	Hyd Lifters, 45°		
Exh.....	Hyd Lifters, 45°		
Exhaust Seat Inserts.....	Yes	Yes	Yes
CARBURETOR			
Make, Model.....	Car WCD 830S	Car WCD 830S	Car WCD 830S
Size, Type.....	1-1/4" Dual DD	1-1/4" Dual DD	1-1/4" Dual DD
Float Level.....	11/64" (2)	11/64" (2)	11/64" (2)
Choke Control.....	Automatic	Automatic	Automatic
ENGINE LUBRICATION			
Oil—Summer—Winter—SAE....	See Chrysler Instruction Book		
Normal Oil Press—lb @ mph....	60 @ 50	60 @ 50	60 @ 50
Oil Filter—Type.....	FF, RE	FF, RE	FF, RE
CAPACITY			
Oil.....(qt)	5	5	5
Water.....(qt)	25	25	25
Transmission.....(pt)	3 (3)	3 (3)	3 (4)
Rear Axle.....(pt)	3-1/2	3-1/2	3-1/2
Gasoline.....(gal)	20	20	20
GENERAL DATA (5 Passenger Sedan)			
Wheelbase.....(in)	131-1/2	131-1/2	145-1/2
Over-all Lgth Incl Bumpers.....(in)	213-3/4	213-1/8	230
Shipping Weight.....(lb)	4205	4315	5369
Tire Size—Recm Press.....(lb)	8.20x15-24-24		
Rear Axle Ratio—Type.....	3.36, 3.54 or 3.73 Hyp (5)		
LOCATION CHASSIS SERIAL NO.			
Left Front Door Body Hinge Post			
(1) Two-breaker distributor; 26° to 28° dwell for each breaker.			
(2) Between machined surface of float chamber cover and nearest point on float.			
(3) If equipped with torque converter, torque converter unit capacity 10-1/2 quarts.			
(4) Torque converter capacity 10-1/2 quarts.			
(5) For Fluid-Matic or Fluid-Torque Drive.			

CROSLEY

CAR MODEL	CD	Hotshot & Super Sports—VC
ENGINE		
No. Cyl-Head Type.....	4-I	4-I
Bore and Stroke (in).....	2-1/2x2-1/4	2-1/2x2-1/4
Displacement (cu in).....	44	44
AMA Horsepower.....	10	10
Max Horsepower @ rpm.....	25.5 @ 5200	25.5 @ 5200
Max Torque, lb-ft @ rpm.....	32.5 @ 3000	32.5 @ 3000
Max bmep, lb/sq in.....	111.4	111.4
Head Material.....	Cast Iron	Cast Iron
Compression Ratio.....	8.0	8.0 (1)
Comp Press, lb/sq in @ rpm....	125-135 @ 260	125-135 @ 260
Piston Material.....	AA	AA
Bearing Material.....	Steel Backed Babbitt	
IGNITION		
Spark Plug—Factory Eqpt.....	Champion J-8	Champion J-8
Alternate.....	AL A7, AC 45	AL A7, AC 45
Spark Plug Gap.....	.025"	.025"
Breaker Gap.....	.020"	.020"
Cam Angle.....	46°	46°
Firing Order.....	1-3-4-2	1-3-4-2
Timing—Crankshaft Degrees ...	12° BTC	12° BTC
Adv Deg—Centrif—Vac.....	34-0	34-0
Adv Begins—Ends—Eng rpm....	800-3000	800-3000
VALVES		
Make and Material..... Int	3140	3140
Exh.....	2112N	2112N
Tappet Clr—Seat Angle..... Int	.004"-.006" C, 45°	.004"-.006" C, 45°
Exh.....	.007"-.009" C, 45°	.007"-.009" C, 45°
Exhaust Seat Inserts.....	None	None
CARBURETOR		
Make, Model.....	Carter WO-870S	Carter WO-870S
Size, Type.....	1" Sgl DD	1" Sgl DD
Float Level.....	1/2" (2)	1/2" (2)
Choke Control.....	Manual	Manual
ENGINE LUBRICATION		
Oil—Summer—Winter—SAE	See Crosley Instruction Book	
Normal Oil Press—lb @ mph....	35-50 @ 30	35-50 @ 30
Oil Filter—Type.....	ByP, RU	ByP, RU
CAPACITY		
Oil.....(qt)	2 (3)	2 (3)
Water.....(qt)	4	4
Transmission.....(pt)	1	1
Rear Axle.....(pt)	1-1/2	1-1/2
Gasoline.....(gal)	6-1/2	6-1/2
GENERAL DATA (4 Passenger Sedan)		
Wheelbase.....(in)	80	85
Over-all Lgth Incl Bumpers.....(in)	148	137
Shipping Weight.....(lb)	1400	1270
Tire Size—Recm Press.....(lb)	4.50x12-25-25	4.50x12-25-25
Rear Axle Ratio—Type.....	5.17SB	5.17SB
LOCATION CHASSIS SERIAL NO. Left Center Firewall Under Hood		

(1) 10.0 to 1 compression ratio optional.

(2) From bowl cover to top of float—with cover inverted and needle seated.

(3) 3 quarts with oil filter.

CAR MODEL	S-15	S-17
ENGINE		
No. Cyl-Head Type.....	6-L	V-8-I
Bore and Stroke (in).....	3-7/16x4-1/2	3-5/8x3-11/32
Displacement (cu in).....	250.6	276.1
AMA Horsepower.....	28.36	42.05
Max Horsepower @ rpm.....	116 @ 3600	160 @ 4400
Max Torque, lb-ft @ rpm.....	208 @ 1600	250 @ 2000
Max bmep, lb/sq in.....	125.1	136.5
Head Material.....	Cast Iron	Cast Iron
Compression Ratio.....	7.0	7.1
Comp Press, lb/sq in @ rpm....	120-150 @ 150	135-165 @ 150
Piston Material.....	AA	AA Steel Band
Bearing Material.....	Steel Backed Lead Base Babbitt	
IGNITION		
Spark Plug—Factory Eqpt.....	AL AR8	AL 4S-140
Alternate.....	AC 46, Champ J-8	AC 46, Champ J-8
Spark Plug Gap.....	.035"	.035"
Breaker Gap.....	.020"	.017"
Cam Angle.....	34-1/2° to 38°	32° to 36° (1)
Firing Order.....	1-5-3-6-2-4	1-8-4-3-6-5-7-2
Timing—Crankshaft Degrees...	2° BTC	4° BTC
Adv Deg—Centrif—Vac.....	20-18	28-23
Adv Begins—Ends—Eng rpm....	700-2850	700-3800
VALVES		
Make and Material.....Int	Silicon	Chromium Steel
Exh.....	Silicon	Chromium Steel
Tappet Clr—Seat Angle.....Int	.008" H, 45°	Hyd Lifters, 45°
Exh.....	.010" H, 45°	Hyd Lifters, 45°
Exhaust Seat Inserts.....	Yes	Yes
CARBURETOR		
Make, Model.....	Ball & Ball (Car)	Car WCD 884-SA
Size, Type.....	1-1/2" Sgl DD	1-1/4" Dual DD
Float Level.....	5/64" (2)	11/64" (3)
Choke Control.....	Automatic	Automatic
ENGINE LUBRICATION		
Oil—Summer—Winter—SAE....	See DeSoto Instruction Book	
Normal Oil Press—lb @ mph....	50 @ 45	50 @ 45
Oil Filter—Type.....	ByP, RU	(4) RE
CAPACITY		
Oil.....(qt)	5	5
Water.....(qt)	15	22
Transmission.....(pt)	2-3/4 (5)	2-3/4 (5)
Rear Axle.....(pt)	3-1/4	3-1/2
Gasoline.....(gal)	17	17
GENERAL DATA (5 Passenger Sedan)		
Wheelbase.....(in)	125-1/2	125-1/2
Over-all Lgth Incl Bumpers.(in)	208-3/8	208-3/8
Shipping Weight.....(lb)	3550 Deluxe (6)	3760
Tire Size—Recm Press.....(lb)	7.60x15-24-24	7.60x15-24-24
Rear Axle Ratio—Type.....	3.54, 3.73 or 3.9 (7)	3.54 or 3.73 (8)
LOCATION CHASSIS SERIAL NO. Left Front Door Body Hinge Post		
(1) Two-breaker distributor; 26° to 28° for each breaker.		
(2) From top of float chamber without gasket to top center of float.		
(3) Between machined surface of float chamber cover and nearest point on float.		
(4) Oil filter is shunt type with full flow filter optional at extra cost.		
(5) 3 pints refill with Tip-Toe Shift hydraulic transmission, 3-1/2 pints refill with overdrive. Torque converter on V-8 requires 10-1/2 quarts.		
(6) Custom model weighs 3660.		
(7) 4.1 with overdrive, 3.73 or 3.9 with Tip-Toe Shift.		
(8) 3.36, 3.54, 3.73, 3.91 or 4.1 with overdrive; 3.73 or 3.91 with Tip-Toe Shift with Fluid Drive; 3.36, 3.54 or 3.73 with Tip-Toe Shift with Fluid-Torque Drive.		

DODGE

CAR MODEL	Dodge D-41	Dodge D-42
ENGINE		
No. Cyl-Head Type.....	6-L	6-L
Bore and Stroke (in).....	3-1/4x4-5/8	3-1/4x4-5/8
Displacement (cu in).....	230.2	230.2
AMA Horsepower.....	25.35	25.35
Max Horsepower @ rpm.....	103 @ 3600	103 @ 3600
Max Torque, lb-ft @ rpm.....	190 @ 1200	190 @ 1200
Max bmep, lb/sq in.....	127.5	127.5
Head Material.....	Cast Iron	Cast Iron
Compression Ratio.....	7.0	7.0
Comp Press, lb/sq in @ rpm....	120-150 @ 150	120-150 @ 150
Piston Material.....	AA	AA
Bearing Material.....	Steel Backed Lead Base Babbitt	
IGNITION		
Spark Plug—Factory Eqpt.....	AL AR8	AL AR8
Alternate.....	AC 46, Champ J-8	AC 46, Champ J-8
Spark Plug Gap.....	.035"	.035"
Breaker Gap.....	.020"	.020"
Cam Angle.....	34-1/2° to 38°	34-1/2° to 38°
Firing Order.....	1-5-3-6-2-4	1-5-3-6-2-4
Timing—Crankshaft Degrees...	2° BTC	2° BTC
Adv Deg—Centrif—Vac.....	20-16	20-16
Adv Begins—Ends—Eng rpm....	700-2850	700-2850
VALVES		
Make and Material.....Int	Various Alloy Steels	
Exh.....	Silicon — Chromium Steel	
Tappet Ctr—Seat Angle.....Int	.008" H, 45°	.008" H, 45°
Exh.....	.010" H, 45°	.010" H, 45°
Exhaust Seat Inserts.....	Yes	Yes
CARBURETOR		
Make, Model.....	Stromberg BXVD-3-93	
Size, Type.....	1-1/2" Sgl DD (Special)	
Float Level.....	1/8" (1)	1/8" (1)
Choke Control.....	Automatic	Automatic
ENGINE LUBRICATION		
Oil—Summer—Winter—SAE....	See Dodge Instruction Book	
Normal Oil Press—lb @ mph....	45 @ 45	45 @ 45
Oil Filter—Type.....	ByP, RE	ByP, RE
CAPACITY		
Oil.....(qt)	5	5
Water.....(qt)	14	14
Transmission.....(pt)	2-3/4 (2)	2-3/4 (2)
Rear Axle.....(pt)	3-1/4	3-1/4
Gasoline.....(gal)	17	17
GENERAL DATA (5 Passenger Sedan)		
Wheelbase.....(in)	115	123-1/2
Over-all Lgth Incl Bumpers. (in)	199-7/8	206-7/8
Shipping Weight.....(lb)	3189 (3)	3387
Tire Size—Recm Press.....(lb)	6.70x15-24-24	7.10x15-24-24
Rear Axle Ratio—Type.....	3.9 Hyp	3.9 Hyp
LOCATION CHASSIS SERIAL NO. Left Front Door Body Hinge Post		
(1) From top of float chamber without gasket to top center of float.		
(2) 3 pints refill when equipped with "Gyromatic" transmission.		
(3) Weight given for two-door sedan; four-door sedan not available in this model.		

CAR MODEL	Mainline Customline Crestline Six	Mainline Customline Crestline Eight	FORD
ENGINE			
No. Cyl-Head Type.....	6-I	V-8-L	
Bore and Stroke (in).....	3.56x3.6	3-3/16x3-3/4	
Displacement (cu in).....	215.3	239.4	
AMA Horsepower.....	30.4	32.5	
Max Horsepower @ rpm.....	101 @ 3500	110 @ 3800	
Max Torque, lb-ft @ rpm.....	185 @ 1300-1700	196 @ 1900-2100	
Max bmep, lb/sq in.....	129.5	123.5	
Head Material.....	Cast Iron	Cast Iron	
Compression Ratio.....	7.0	7.2	
Comp Press, lb/sq in @ rpm....	128 @ 210	(1)	
Piston Material.....	AA	AA	
Bearing Material.....	Steel Backed Copper-Lead Alloy		
IGNITION			
Spark Plug—Factory Eqpt.....	Champion H-10	Champion H-10	
Alternate.....	AC 45L, AL AL7	AC 45L, AL AL7	
Spark Plug Gap.....	.029" to .032"	.029" to .032"	
Breaker Gap.....	.024" to .026"	.014" to .016"	
Cam Angle.....	35° to 38°	26° to 28.5°	
Firing Order.....	1-5-3-6-2-4	1-5-4-8-6-3-7-2	
Timing—Crankshaft Degrees...	TDC	2° BTC	
Adv Deg—Centrif—Vac.....	(2)	(3)	
Adv Begins—Ends—Eng rpm....			
VALVES			
Make and Material.....Int	Ford or Eaton S11 #1		
Exh	Ford or Eaton Nichrome Alloy		
Tappet Clr—Seat Angle.....Int	.015" H, 45°	.013" to .015" C, 45°	
Exh	.015" H, 45°	.017" to .019" C, 45°	
Exhaust Seat Inserts.....	None	None	
CARBURETOR			
Make, Model.....	Holley 1904-F	Holley-Ford AA1	
Size, Type.....	1-1/4" Sgl DD	1" Dual DD	
Float Level.....	1.322" to 1.353" (4)	1.322" to 1.353" (4)	
Choke Control.....	Manual	Manual	
ENGINE LUBRICATION			
Oil—Summer—Winter—SAE....	See Ford Instruction Book		
Normal Oil Press—lb @ mph....	40-50 @ 30-40	40 @ 30-40	
Oil Filter—Type.....	FF, RE	ByP, RE	
CAPACITY			
Oil.....(qt) (5)	(5)	(5)	
Water.....(qt) 15	22	22	
Transmission.....(pt) 3 (6)	3 (6)	3 (6)	
Rear Axle.....(pt) 3-1/2	3-1/2	3-1/2	
Gasoline.....(gal) 17	17	17	
GENERAL DATA (5 Passenger Sedan)			
Wheelbase.....(in) 115	115	115	
Over-all Lgth Incl Bumpers. (in)	197.8	197.8	
Shipping Weight.....(lb) 3130	3204	3204	
Tire Size—Recm Press.....(lb)	6.00x16-28-25 (7)	6.00x16-28-25 (7)	
Rear Axle Ratio—Type.....	3.90 Hyp (8)	3.90 Hyp (8)	
LOCATION CHASSIS SERIAL NO.			
Right Front Door Pillar Post			
(1) 125 @ 220 with standard transmission, 116 @ 135 with Fordomatic.			
(2) Full vacuum actuated distributor—maximum advance with wide open throttle at 4000 rpm is 29° to 31½°—at cruising torque maximum advance is 30½° to 33½°. (3) Full vacuum actuated distributor—maximum advance with wide open throttle at 4000 rpm is 20° to 22½°—at cruising torque maximum advance is 24° to 27°.			
(4) From bowl cover flange to bottom of float in closed position.			
(5) 5 quarts dry including filter—4 quarts refill.			
(6) 4½ pints when equipped with overdrive—Fordomatic requires 9.75 quarts.			
(7) 6.70x15-26-23 standard on Customline and Crestline—7.10x15-24-21 standard on Victoria Sunliner.			
(8) 4.10 with overdrive—3.31 with Fordomatic transmission.			

HUDSON

CAR MODEL	Pacemaker 4-B	Wasp 5-B	Commodore Six 6-B
ENGINE			
No. Cyl-Head Type.....	6-L	6-L	6-L
Bore and Stroke (in).....	3-9/16x3-7/8	3-9/16x4-3/8	3-9/16x4-3/8
Displacement (cu in).....	232	262	262
AMA Horsepower.....	30.4	30.4	30.4
Max Horsepower @ rpm.....	112 @ 4000	127 @ 4000	127 @ 4000
Max Torque, lb-ft @ rpm.....	175 @ 1600	200 @ 1600	200 @ 1600
Max bmep, lb/sq in.....	113.8	115.0	115.0
Head Material.....	Cast Iron	Cast Iron	Cast Iron
Compression Ratio.....	6.7 (1)	6.7 (1)	6.7 (1)
Comp Press, lb/sq in @ rpm....	119 @ 125	119 @ 125	119 @ 125
Piston Material.....	AA	AA	AA
Bearing Material.....		Steel Backed Babbitt	

IGNITION

Spark Plug—Factory Eqpt.....	Champion H-8	Champion H-8	Champion H-8
Alternate.....	AC	AC 45L	AC 45L
	AL	AL AL7	AL AL7
Spark Plug Gap.....	.031	.032"	.032"
Breaker Gap.....	.020"	.020"	.020"
Cam Angle.....	39°	39°	39°
Firing Order.....		1-5-3-6-2-4	
Timing—Crankshaft Degrees...	TDC	TDC	TDC
Adv Deg—Centrif—Vac.....	20-10	18-8	18-8
Adv Begins—Ends—Eng rpm....	600-2400	1000-4000	1000-4000

VALVES

Make and Material.....Int		Eaton SAE 8645	
Exh		Eaton 2112	
Tappet Clr—Seat Angle.....Int		.008" H, 45°	
Exh		.010" H, 45°	
Exhaust Seat Inserts.....	None	None	None

CARBURETOR

Make, Model.....	Car WA1-749S	Car WGD-776S	Car WGD-776S
Size, Type.....	1-1/2" Sgl DD	1-1/4" Dual DD	1-1/4" Dual DD
Float Level.....	1/2" (2)	3/16" (3)	3/16" (3)
Choke Control.....	Automatic	Automatic	Automatic

ENGINE LUBRICATION

Oil—Summer—Winter—SAE....		See Hudson Instruction Book	
Normal Oil Press—lb @ mph....	40 @ 30	40 @ 30	40 @ 30
Oil Filter—Type.....	None	None	None

CAPACITY

Oil.....(qt)	7 (4)	7 (4)	7 (4)
Water.....(qt)	18-1/2 (5)	18-1/2 (5)	18-1/2 (5)
Transmission.....(pt)	2 (6)	2 (6)	2 (6)
Rear Axle.....(pt)	3-1/2	3-1/2	3-1/2
Gasoline.....(gal)	20	20	20

GENERAL DATA (5 Passenger Sedan)

Wheelbase.....(in)	119	119	124
Over-all Lgth Incl Bumpers. (in)	201-1/2	202-1/2	208-1/2
Shipping Weight.....(lb)	3390	3485	3595
Tire Size—Recm Press.....(lb)	7.10x15-26-24 (7)	7.10x15-26-24 (7)	7.10x15-26-24 (7)
Rear Axle Ratio—Type.....	4.1 (8)	4.1 (8)	4.1 (8)

LOCATION CHASSIS SERIAL NO.

Right Front Pillar Post

- (1) 7.2 optional.
- (2) From projection on bowl cover to soldered seam of float—with cover inverted and needle seated.
- (3) From bowl cover to top of float—with cover inverted and needle seated.
- (4) 7½ quarts for dry engine.
- (5) Add 1 quart when equipped with heater.
- (6) 3¼ pints when equipped with overdrive. Hydra-Matic requires 11 quarts for refill.
- (7) 7.60x15-26-24 optional.
- (8) 4.55 optional. 4.55 standard with overdrive. 3.58 with Hydra-Matic.

HUDSON

CAR MODEL	Hornet 7-B	Commodore Eight 8-B
ENGINE		
No. Cyl-Head Type.....	6-L	8-L
Bore and Stroke (in).....	3-13/16x4-1/2	3x4-1/2
Displacement (cu in).....	308	254
AMA Horsepower.....	34.88	28.8
Max Horsepower @ rpm.....	145 @ 3800	128 @ 4200
Max Torque, lb-ft @ rpm.....	257 @ 1800	198 @ 1600
Max bmep, lb/sq in.....	125.8	117.6
Head Material.....	Cast Iron	Cast Iron
Compression Ratio.....	7.2 (1)	6.7 (2)
Comp Press, lb/sq in @ rpm....		119 @ 125
Piston Material.....	AA	AA
Bearing Material.....	Steel Backed Babbitt	Bronze Backed Babbitt
IGNITION		
Spark Plug—Factory Eqpt.....	Champion H-11	Champion H-8
Alternate.....	AC 45L, AL AL7	AC 45L, AL AL7
Spark Plug Gap.....	.032"	.032"
Breaker Gap.....	.020"	.017"
Cam Angle.....	39°	27°
Firing Order.....	1-5-3-6-2-4	1-6-2-5-8-3-7-4
Timing—Crankshaft Degrees...	TDC	TDC
Adv Deg—Centrif—Vac.....	18-8	35-8
Adv Begins—Ends—Eng rpm....	1000-4000	600-3400
VALVES		
Make and Material.....Int	Eaton SAE 8645	Eaton SAE 8645
Exh.....	Eaton 2112	Eaton S11 XB
Tappet Clr—Seat Angle.....Int	.008" H, 45°	.008" H, 45°
Exh.....	.010" H, 45°	.010" H, 45°
Exhaust Seat Inserts.....	None	None
CARBURETOR		
Make, Model.....	Car WGD 776S	Car WGD 773S
Size, Type.....	1-1/4" Dual DD	1-1/4" Dual DD
Float Level.....	3/16" (3)	3/16" (3)
Choke Control.....	Automatic	Automatic
ENGINE LUBRICATION		
Oil—Summer—Winter—SAE....	See Hudson Instruction Book	
Normal Oil Press—lb @ mph....	40 @ 30	
Oil Filter—Type.....	None	None
CAPACITY		
Oil.....(qt)	7 (4)	7 (5)
Water.....(qt)	18-1/2 (6)	18-1/2 (6)
Transmission.....(pt)	2 (7)	2 (7)
Rear Axle.....(pt)	3-1/2	3-1/2
Gasoline.....(gal)	20	20
GENERAL DATA (5 Passenger Sedan)		
Wheelbase.....(in)	124	124
Over-all Lgth Incl Bumpers.....(in)	208-1/2	208-1/2
Shipping Weight.....(lb)	3600	3630
Tire Size—Recm Press.....(lb)	7.10x15-26-24 (8)	7.10x15-26-24 (8)
Rear Axle Ratio—Type.....	4.1 (9)	4.1 (9)
LOCATION CHASSIS SERIAL NO.		
	Right Front Pillar Post	
(1) 6.7 optional.		
(2) 7.2 optional.		
(3) From bowl cover to top of float—with cover inverted and needle seated.		
(4) 7½ quarts with dry engine.		
(5) 8 quarts with dry engine.		
(6) Add 1 quart when equipped with heater.		
(7) 3¼ pints with overdrive. Hydra-Matic requires 11 quarts for refill.		
(8) 7.60x15-26-24 optional.		
(9) 4.55 optional, 4.55 standard with overdrive, 3.58 with Hydra-Matic.		

SPARK PLUG HEAT

		A Extremely Hot	B Very Hot	C Hot	D Warm
AC	10 mm	M8		106	
	14 mm	48 48X	47 Com	46-5 46X 46 46 Com	45 45L Com* 45 Com 45L*
	18 mm	88 88L Com*	87S Com 87 Com	86 86 Com	85 Com 85S Com
	3/8"	78L Com* 78 78S	77 Com 77L Com*	76 76S	75 Com
CHAM- PION	10 mm	Y-8		Y-6	
	14 mm	J-14	J-12	J-11 H-11*	J-8 H-10*
	18 mm	9 Com*	C-15 C-7	8 Com	7 15A
	3/8"	3 Com* 22	2 Com L*	C-4	6
AUTO- LITE	10 mm	P6 PR6			
	14 mm	A11 AR10	A9	AR8 ARL8*	A7 AN7 AL7*
	18 mm	B-11	BR10	B9	BR8 B7
	3/8"	T11		T9	T7
FIRE- STONE	10 mm	T-60-F			
	14 mm	F-120-F		F-80-F	F-90-LF*
	18 mm	M-120-CF		M-80-CF	
	3/8"	S-120-CF		S-80-CF	
TORQUE WRENCH CHART	<p>Always use a spark plug socket wrench or a torque wrench. These wrenches are readily obtainable and are the only kind which will avoid distortion of the plug and insure the insulator against damage or breakage.</p>				

*Long reach.

RANGE COMPARISONS

E Cool	F Cold	G Very Cold	H Extremely Cold			
104 Com 104		103 Com		10 mm	AC	
44-5 44 Com 44-5 Com 44	43L* 43L Com*	43 Com	42-5 Com 42 Com	14 mm		
84 83S Com 83 Com	82 82 Com 82S Com		81S Com	18 mm		
	74 74 Com	73 Com		7/8"		
Y-4A				10 mm	CHAM- PION	
J-7		J-6 H-9*	J-5 H-8*	J-2		14 mm
13 6 Com	5 Com	R-7	R-1	R-11 R-2		18 mm
1 Com	0 Com					7/8"
P4 PR4				10 mm	AUTO- LITE	
A5 AR5 AN5 AL5* ARL5*			AR4 A3	14 mm		
B7	B5	BR4		18 mm		
T7				7/8"		
T-40-F				10 mm	FIRE- STONE	
F-40-F		F-50-LF*		F-30-F		14 mm
M-80-CF	M-40-CF					18 mm
S-40-CF				7/8"		
Average torque wrench pressures recommended for standard plugs in vehicles. All pressures listed are based on spark plug and engine threads being clean.					TORQUE WRENCH CHART	
Plug Thread		Cast Iron Heads	Aluminum Heads			
10 mm		14 lb-ft	12 lb-ft			
14 mm		30 lb-ft	28 lb-ft			
18 mm		34 lb-ft	32 lb-ft			
7/8"		37 lb-ft	35 lb-ft			

HENRY J

CAR MODEL

K-523

K-524

ENGINE

No. Cyl-Head Type.....	4-L	6-L
Bore and Stroke (in).....	3-1/8x4-3/8	3-1/8x3-1/2
Displacement (cu in).....	134.2	161
AMA Horsepower	15.63	23.44
Max Horsepower @ rpm.....	68 @ 4000	80 @ 3800
Max Torque, lb-ft @ rpm.....	109 @ 1800	133 @ 1600
Max bmep, lb/sq in.....	122.5	124.6
Head Material	Cast Iron	Cast Iron
Compression Ratio	7.00	7.00
Comp Press, lb/sq in @ rpm....	120 to 130	130 to 140
Piston Material	AA	AA
Bearing Material		Steel Backed Babbitt

IGNITION

Spark Plug—Factory Eqpt.....	AL AN7	AL AN7
Alternate		AC 45, Champion J-8
Spark Plug Gap030"	.030"
Breaker Gap020"	.020"
Cam Angle	41° ± 1°	38° ± 1°
Firing Order	1-3-4-2	1-5-3-6-2-4
Timing—Crankshaft Degrees ...	5° BTC	TDC
Adv Deg—Centrif—Vac	22-20	24-12
Adv Begins—Ends—Eng rpm....	700-3000	700-3000

VALVES

Make and Material.....	Int Various 3140	Various 3140
	Exh	2112 or 2155
Tappet Clr—Seat Angle.....	Int .016" C, 45°	.016" C, 45°
	Exh .016" C, 45°	.016" C, 45°
Exhaust Seat Inserts.....	None	None

CARBURETOR

Make, Model	Car 820-SB	Car 833-SB
Size, Type.....	1-1/4" Sgl DD	1-1/4" Sgl DD
Float Level.....	9/32" (1)	9/32" (1)
Choke Control	Manual	Manual

ENGINE LUBRICATION

Oil—Summer—Winter—SAE		See Henry J Instruction Book
Normal Oil Press—lb @ mph....	30-35 @ 30-40	30-35 @ 30-40
Oil Filter—Type	None	None

CAPACITY

Oil	(qt) 4	5
Water	(qt) 10-1/2 (2)	9-1/2 (2)
Transmission	(pt) 1-1/2 (3)	1-1/2 (3)
Rear Axle	(pt) 2-1/2	2-1/2
Gasoline	(gal) 13	13

GENERAL DATA (5 Passenger Sedan)

Wheelbase	(in) 100	100
Over-all Lgth Incl Bumpers. (in)	174-1/2 (4)	174-1/2 (4)
Shipping Weight	(lb) 2385 (5)	2405 (5)
Tire Size—Recm Press	(lb) 5.90x15-24-20	5.90x15-24-20
Rear Axle Ratio—Type	4.55	4.10 (6)

LOCATION CHASSIS SERIAL NO. Left Front Pillar Post

- (1) From top of float to bottom surface of float bowl cover.
- (2) One quart additional if equipped with a heater.
- (3) 3/4 pint additional when equipped with overdrive.
- (4) 181-1/4 over-all with Continental tire cover.
- (5) Add 20 pounds when equipped with Continental tire carrier. Add 40 pounds with overdrive.
- (6) 4.55 when equipped with overdrive.

KAISER-FRAZER

Kaiser
K-521 and K-522

CAR MODEL

ENGINE

No. Cyl-Head Type.....	6-L
Bore and Stroke (in).....	3-5/16x4-3/8
Displacement (cu in).....	226.2
AMA Horsepower.....	26.3
Max Horsepower @ rpm.....	115 @ 3650
Max Torque, lb-ft @ rpm.....	190 @ 1800
Max bmep, lb/sq in.....	126.7
Head Material.....	Cast Iron
Compression Ratio.....	7.3
Comp Press, lb/sq in @ rpm.....	120 @ 70
Piston Material.....	AA
Bearing Material.....	Steel Backed Babbitt

IGNITION

Spark Plug—Factory Eqpt.....	AL A7
Alternate.....	AC 45, Champ J-8
Spark Plug Gap.....	.030"
Breaker Gap.....	.022"
Cam Angle.....	31° to 35°
Firing Order.....	1-5-3-6-2-4
Timing—Crankshaft Degrees.....	4° BTC
Adv Deg—Centrif—Vac.....	18-10
Adv Begins—Ends—Eng rpm.....	650-3200

VALVES

Make and Material.....	Int TP or Eaton or Rich 8645
Exh TP or Eaton or Rich XCR	
Tappet Clr—Seat Angle.....	Int .014" C, 30°
Exh .014" C, 45°	
Exhaust Seat Inserts.....	None

CARBURETOR

Make, Model.....	Car WGD-781S
Size, Type.....	1-1/4" Dual DD
Float Level.....	1/4" (1)
Choke Control.....	Automatic

ENGINE LUBRICATION

Oil—Summer—Winter—SAE.....	See Kaiser Instruction Book
Normal Oil Press—lb @ mph.....	35 @ 30
Oil Filter—Type.....	ByP, RU

CAPACITY

Oil.....	(qt) 5 (2)
Water.....	(qt) 12 (3)
Transmission.....	(pt) 2-1/2 (4)
Rear Axle.....	(pt) 3-1/2
Gasoline.....	(gal) 17

GENERAL DATA (5 Passenger Sedan)

Wheelbase.....	(in) 118-1/2
Over-all Lgth Incl Bumpers.....	(in) 214-3/4 (5)
Shipping Weight.....	(lb) 3210 (6)
Tire Size—Recm Press.....	(lb) 6.70x15-24-24
Rear Axle Ratio—Type.....	3.91 and 4.09 (7)

LOCATION CHASSIS SERIAL NO.

Left Front Pillar Post

- (1) From top of float to bottom of float bowl cover—float cover inverted.
- (2) 5 quarts refill—6 quarts with new filter.
- (3) Without heater. One quart additional with heater.
- (4) 3½ pints with overdrive. When equipped with Hydra-Matic, 11 quarts required for refill, 12 quarts when unit is dry.
- (5) Deluxe is 216½ inches over-all.
- (6) Deluxe weighs 3240 pounds. Add 115 pounds for Hydra-Matic, 40 pounds for overdrive.
- (7) 4.55 with overdrive. 3.54 with Hydra-Matic.

LINCOLN-MERCURY

CAR MODEL

ENGINE

	Lincoln Cosmopolitan and Capri	Mercury Custom and Monterey
No. Cyl-Head Type.....	V-8-I	V-8-L
Bore and Stroke (in).....	3.8x3.5	3-3/16x4
Displacement (cu in).....	317.5	255.4
AMA Horsepower.....	46.2	32.5
Max Horsepower @ rpm.....	160 @ 3900	125 @ 3700
Max Torque, lb-ft @ rpm.....	284 @ 1800	211 @ 1900-2200
Max bmep, lb/sq in.....	134.9	124.5
Head Material.....	Cast Iron	Cast Iron
Compression Ratio.....	7.5	7.2
Comp Press, lb/sq in @ rpm.....	Min 115 @ 120	105-125 @ 120
Piston Material.....	AA-Steel Strut	AA-Steel Strut
Bearing Material.....	Steel Backed Copper-Lead Alloy	

IGNITION

Spark Plug—Factory Eqpt.....	Champion H-10	Champion H-10
Alternate.....	AC 45L, AL AL7	AC 45L, AL AL7
Spark Plug Gap.....	.029" to .032"	.029" to .032"
Breaker Gap.....	.014" to .016"	.014" to .016"
Cam Angle.....	26° to 28.5°	26° to 28.5°
Firing Order.....	1-5-4-8-6-3-7-2	1-5-4-8-6-3-7-2
Timing—Crankshaft Degrees ...	3° BTC	2° BTC
Adv Deg—Centrif—Vac.....	(1)	(2)
Adv Begins—Ends—Eng rpm....		

VALVES

Make and Material.....Int	Rich or Eaton 3140 or 8645	Ford, Eaton or Rich Sil #1
Exh	Nichrome Alloy	Ford, Eaton or Rich Nichrome Alloy
Tappet Clr—Seat Angle.....Int	Hyd Lifters, 45°	.013" to .015" C, 45°
Exh	Hyd Lifters, 45°	.017" to .019" C, 45°
Exhaust Seat Inserts.....	None	None

CARBURETOR

Make, Model.....	Holley 1901 FFC	Holley 1901 FFC
Size, Type.....	1-1/4" Dual DD	1-1/4" Dual DD
Float Level.....	1/2" ± 1/32" (3)	1/2" ± 1/32" (3)
Choke Control.....	Automatic	Automatic

ENGINE LUBRICATION

Oil—Summer—Winter—SAE	See Lincoln-Mercury Instruction Book	
Normal Oil Press—lb @ mph....	40 @ 40	57 @ 40
Oil Filter—Type.....	FF, RE	ByP, RE

CAPACITY

Oil.....(qt)	(4)	(5)
Water.....(qt)	20.5	22
Transmission.....(pt)	3-1/2 (6)	3 (7)
Rear Axle.....(pt)	4.0	3-1/2
Gasoline.....(gal)	21.0	19.5

GENERAL DATA (5 Passenger Sedan)

Wheelbase.....(in)	123	118
Over-all Lgth Incl Bumpers.(in)	214.1	202.2
Shipping Weight.....(lb)	3883	3391
Tire Size—Recm Press.....(lb)	8.00x15-24-24(8)	7.10x15-26-22
Rear Axle Ratio—Type.....	3.92 Hyp (9)	3.73 Hyp (10)

LOCATION CHASSIS SERIAL NO.

Right Front Door Pillar Post

(1) Full vacuum actuated distributor—maximum advance with wide open throttle at 4000 rpm is 29½° to 32°—at cruising torque maximum is 32½° to 35½°. (2) Full vacuum actuated distributor—maximum advance with wide open throttle at 4000 rpm is 15° to 17°—at cruising torque maximum is 18° to 21°. (3) From bowl cover flange to fuel level. (4) 6 quarts dry including filter—5 quarts refill. (5) 5 quarts dry including filter—4 quarts refill. (6) 4½ pints with overdrive. Hydra-Matic requires 12 quarts. (7) 4½ pints with overdrive. Merc-O-Matic requires 9.75 quarts. (8) 8.20x15-24-24 standard on Capri. (9) 4.27 optional. 3.92 or 4.27 with overdrive. 3.15 on first 2000 Hydra-Matics produced. 3.07 on remainder. 3.31 optional with Hydra-Matic drive. (10) 4.10 with overdrive. 3.31 with Merc-O-Matic transmission.

CAR MODEL	Rambler 5210	Statesman 5240	Ambassador 5260
ENGINE			
No. Cyl-Head Type.....	6-L	6-L	6-I
Bore and Stroke (in).....	3-1/8x3-3/4	3-1/8x4-1/4	3-1/2x4-3/8
Displacement (cu in).....	172.6	195.6	252.6
AMA Horsepower.....	23.44	23.44	29.4
Max Horsepower @ rpm.....	82 @ 3800	88 @ 3800	120 @ 3700
Max Torque, lb-ft @ rpm.....	138 @ 1600	150 @ 1600	220 @ 1600
Max bmep, lb/sq in.....	120.6	115.5	131.4
Head Material.....	Cast Iron	Cast Iron	Cast Iron
Compression Ratio.....	7.25 (1)	7.0 (2)	7.3 (3)
Comp Press, lb/sq in @ rpm.....	120	120	130
Piston Material.....	AA	AA	AA
Bearing Material.....		Steel Backed Babbitt	
IGNITION			
Spark Plug—Factory Eqpt.....	AL A7A	AL A7A	AL A7A
Alternate.....	AC 45,	Champ J-8	AC 44, Champ J-8
Spark Plug Gap.....	.030"	.030"	.030"
Breaker Gap.....	.022"	.022"	.022"
Cam Angle.....	31° to 37°	31° to 37°	31° to 37°
Firing Order.....	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4
Timing—Crankshaft Degrees....	TDC	TDC	TDC
Adv Deg—Centrif—Vac.....	22-17	22-17	28-12
Adv Begins—Ends—Eng rpm....	600-2800	600-2800	600-2700
VALVES			
Make and Material.....Int		SAE 3150 or Mod 8645	
Exh.....	2112N	2112N	2112N
Tappet Clr—Seat Angle.....Int	.016" C, 45°	.015" H, 45°	.015" H, 30°
Exh.....	.018" C, 45°	.015" H, 45°	.018" H, 45°
Exhaust Seat Inserts.....	None	None	None
CARBURETOR			
Make, Model.....	Carter YF	Carter YF	Carter HF
Size, Type.....	1-1/4" Sgl DD	1-1/4" Sgl DD	Sgl DD
Float Level.....	1/2" (4)	1/2" (4)	NA
Choke Control.....	Automatic	Automatic	Automatic
ENGINE LUBRICATION			
Oil—Summer—Winter—SAE.....		See Nash Instruction Book	
Normal Oil Press—lb @ mph.....	50 @ 30	50 @ 30	50 @ 30
Oil Filter—Type.....	None	None	None
CAPACITY			
Oil.....(qt)	5	5	6
Water.....(qt)	12 (5)	15 (5)	18 (5)
Transmission.....(pt)	1-1/2 (6)	2-1/4 (6) (7)	2-1/4 (6) (7)
Rear Axle.....(pt)	3	3	4
Gasoline.....(gal)	20	20	20
GENERAL DATA (5 Passenger Sedan)			
Wheelbase.....(in)	100	114-1/4	121-1/4
Over-all Lgth Incl Bumpers.....(in)	176	202-1/4	209-1/4
Shipping Weight.....(lb)	2420 (8)	3040	3480
Tire Size—Recm Press.....(lb)	5.90x15-24-24 (9)	6.70x15-24-24	7.10x15-24-24
Rear Axle Ratio—Type.....	3.77 Hyp (10)	4.4 Hyp (11)	4.10 Hyp (12)
LOCATION CHASSIS SERIAL NO. Under Hood on Dash Panel			

- (1) 7.6 optional.
- (2) 7.35 optional.
- (3) 8.25 aluminum head optional with dual carburetors.
- (4) From top of float (at free end) to float chamber cover flange.
- (5) With heater.
- (6) 1-1/4 pints additional with overdrive.
- (7) 11 quarts refill with Hydra-Matic Drive.
- (8) Weight of two-door hard top given.
- (9) 6.40x15-24-24 used on Custom.
- (10) 4.4 optional; 4.4 standard with overdrive, 4.1 optional.
- (11) 4.1 optional; 4.9 standard with overdrive, 4.4 optional; 3.3 with Hydra-Matic Drive.
- (12) 4.4 standard with overdrive, 4.1 optional; 3.15 with Hydra-Matic Drive.

OLDSMOBILE

CAR MODEL	Deluxe 83	Super 83	98
ENGINE			
No. Cyl-Head Type.....	V-8-I	V-8-I	V-8-I
Bore and Stroke (in).....	3-3/4x3-7/16	3-3/4x3-7/16	3-3/4x3-7/16
Displacement (cu in).....	303.7	303.7	303.7
AMA Horsepower.....	45.0	45.0	45.0
Max Horsepower @ rpm.....	145 @ 3600	160 @ 3600	160 @ 3600
Max Torque, lb-ft @ rpm.....	230 @ 1800	283 @ 1800	283 @ 1800
Max bmep, lb/sq in.....	139.0	140.5	140.5
Head Material.....	Cast Iron	Cast Iron	Cast Iron
Compression Ratio.....	7.5	7.5	7.5
Comp Press, lb/sq in @ rpm....	180-190 @ 1000	180-190 @ 1000	180-190 @ 1000
Piston Material.....	AA — Steel Strut		
Bearing Material.....	Steel Backed Durex		
IGNITION			
Spark Plug—Factory Eqpt.....	AC 46-5	AC 46-5	AC 46-5
Alternate.....		Champion J-11, AL A9	
Spark Plug Gap.....	.030"	.030"	.030"
Breaker Gap.....	.016"	.016"	.016"
Cam Angle.....	26° to 33°	26° to 33°	26° to 33°
Firing Order.....		1-8-7-3-6-5-4-2	
Timing—Crankshaft Degrees...	2-1/2° BTC	2-1/2° BTC	2-1/2° BTC
Adv Deg—Centrif—Vac.....	30-20	30-20	30-20
Adv Begins—Ends—Eng rpm....	600-3000	600-3000	600-3000
VALVES			
Make and Material.....Int		Various 3140 and SAE 8645	
Exh		Sil XCR	
Tappet Clr—Seat Angle.....Int		Hydraulic Lifters, 45°	
Exh		Hydraulic Lifters, 45°	
Exhaust Seat Inserts.....	None	None	None
CARBURETOR			
Make, Model.....	Carter WGD RP4GC or Car WCFB		
Size, Type.....	1-7/16" Dual DD	1-5/16" DD	4 Barrel
Float Level.....	1/4" (1)	(2)	(2)
Choke Control.....	Automatic	Automatic	Automatic
ENGINE LUBRICATION			
Oil—Summer—Winter—SAE....	See Oldsmobile Instruction Book		
Normal Oil Press—lb @ mph....	40 @ 30	40 @ 30	40 @ 30
Oil Filter—Type.....	FF, RE (3)	FF, RE (3)	FF, RE (3)
CAPACITY			
Oil.....(qt)	5	5	5
Water.....(qt)	21-1/2	21-1/2	21-1/2
Transmission.....(pt)	2 (4)	2 (4)	2 (4)
Rear Axle.....(pt)	3-3/4	3-3/4	3-3/4
Gasoline.....(gal)	18	18	18
GENERAL DATA (5 Passenger Sedan)			
Wheelbase.....(in)	120	120	124
Over-all Lgth Incl Bumpers.(in)	204	204	213
Shipping Weight.....(lb)	3607 (5)	3651 (5)	3763 (5)
Tire Size—Recm Press.....(lb)	7.60x15-24-22	7.60x15-24-22	7.60x15-24-22
Rear Axle Ratio—Type.....	3.64 (6)	3.64 (6)	3.64 (7)
LOCATION CHASSIS SERIAL NO. Left Front Door Pillar Post			

- (1) From flange of cover to top of float.
- (2) Rochester 1-3/8" from cover gasket to bottom of float with bowl cover inverted and needle seated. Carter 5/16" from machined face of cover to top of float with bowl cover inverted and needle seated.
- (3) Oil filter factory installed at extra cost.
- (4) Hydra-Matic requires 10-1/2 quarts for refill.
- (5) Add 100 pounds for Hydra-Matic.
- (6) 3.9 optional. 3.23 standard with Hydra-Matic. 3.03 optional.
- (7) 3.9 optional. 3.42 standard with Hydra-Matic. 3.03 optional.

PACKARD

CAR MODEL	200 Synchromesh & Ultramatic	250 & 300 Synchromesh & Ultramatic	400 Ultramatic
ENGINE			
No. Cyl-Head Type.....	8-L	8-L	8-L
Bore and Stroke (in).....	3-1/2x3-3/4	3-1/2x4-1/4	3-1/2x4-1/4
Displacement (cu in).....	288	327	327
AMA Horsepower.....	39.2	39.2	39.2
Max Horsepower @ rpm.....	135 @ 3600 (1)	150 @ 3600 (2)	155 @ 3600
Max Torque, lb-ft @ rpm.....	230 @ 2000 (1)	270 @ 2000 (2)	275 @ 2000
Max bmep, lb/sq in.....	120.4 (1)	124.5 (2)	126.8
Head Material.....	Cast Iron	Cast Iron	Cast Iron
Compression Ratio.....	7.00 (1)	7.00 (2)	7.80
Comp Press, lb/sq in @ rpm.....			
Piston Material.....	AA	AA	AA
Bearing Material.....		Steel Backed Durex	
IGNITION			
Spark Plug—Factory Eqpt.....	AL A5 or AC 46-5 or Champion J-8		
Alternate.....			
Spark Plug Gap.....	.025"	.025"	.025"
Breaker Gap.....	.016"	.016"	.017"
Cam Angle.....	21° to 30°	21° to 30°	27°
Firing Order.....		1-6-2-5-8-3-7-4	
Timing—Crankshaft Degrees...	6° BTC	6° BTC	6° BTC
Adv Deg—Centrif—Vac.....	16°-21°	16°-21°	16°-21°
Adv Begins—Ends—Eng rpm....	600-3200	600-3200	600-3200
VALVES			
Make and Material.....Int	SAE 8645	SAE 8645	SAE 8645
Exh	2112	2112	2112
Tappet Clr—Seat Angle.....Int	.007" H, 30°	Hydraulic Lifters, 30°	
Exh	.010" H, 45°	Hydraulic Lifters, 45°	
Exhaust Seat Inserts.....	None	None	None
CARBURETOR			
Make, Model.....	Car WGD-784S	Car WGD-928S	
Size, Type.....	1-1/4" Dup DD	1-1/4" Dup DD	1-1/4" Dup DD
Floater Level.....	13/64" (3)	13/64" (3)	13/64" (3)
Choke Control.....	Automatic	Automatic	Automatic
ENGINE LUBRICATION			
Oil—Summer—Winter—SAE....	See Packard Instruction Book		
Normal Oil Press—lb @ mph....	40	40	40
Oil Filter—Type.....	None	ByP, RE	ByP, RE
CAPACITY			
Oil.....(qt)	7	7	7
Water.....(qt)	20 (4)	20 (4)	20 (4)
Transmission.....(pt)	2 (5)	2 (5)	24
Rear Axle.....(pt)	4	4	4
Gasoline.....(gal)	20	20	20
GENERAL DATA (5 Passenger Sedan)			
Wheelbase.....(in)	122	127 (6)	127
Over-all Lgth Incl Bumpers.(in)	212-3/4	217-3/4 (6)	217-3/4
Shipping Weight.....(lb)	3680 (7)	3880 (7)	4100
Tire Size—Recm Press.....(lb)	7.60x15-24-24	8.00x15-24-24	8.00x15-24-24
Rear Axle Ratio—Type.....	3.9 (8)	3.9 (8)	3.54

LOCATION CHASSIS SERIAL NO. Left Front Door Pillar Post

- (1) With Ultramatic drive, cylinder head of 7.5 compression ratio is used. Maximum HP is increased to 138; maximum torque to 235; maximum bmep to 123.0.
- (2) With Ultramatic drive, cylinder head of 7.8 compression ratio is used. Maximum HP is increased to 155; maximum torque to 275; maximum bmep to 126.8.
- (3) Below top of bowl.
- (4) One pint additional with heater.
- (5) 1-1/4 pints additional for overdrive. Ultramatic drive requires 24 pints.
- (6) Series 250 has 122 inch wheelbase — over-all length 212-3/4.
- (7) 150 pounds additional with Ultramatic drive.
- (8) 4.1 with overdrive, 3.54 with Ultramatic drive.

PLYMOUTH

CAR MODEL	Concord P-22	Cambridge P-23	Cranbrook P-23
ENGINE			
No. Cyl-Head Type.....	6-L	6-L	6-L
Bore and Stroke (in).....	3-1/4x4-3/8	3-1/4x4-3/8	3-1/4x4-3/8
Displacement (cu in).....	217.8	217.8	217.8
AMA Horsepower.....	25.35	25.35	25.35
Max Horsepower @ rpm.....	97 @ 3600	97 @ 3600	97 @ 3600
Max Torque, lb-ft @ rpm.....	175 @ 1200	175 @ 1200	175 @ 1200
Max bmep, lb/sq in.....	121.2	121.2	121.2
Head Material.....	Cast Iron	Cast Iron	Cast Iron
Compression Ratio.....	7.0	7.0	7.0
Comp Press, lb/sq in @ rpm....	120-150 @ 150	120-150 @ 150	120-150 @ 150
Piston Material.....	AA	AA	AA
Bearing Material.....	Steel Backed Lead Base Babbitt		
IGNITION			
Spark Plug—Factory Eqpt.....	AL AR8	AL AR8	AL AR8
Alternate.....	AC 46, Champ J-8	AC 46, Champ J-8	AC 46, Champ J-8
Spark Plug Gap.....	.035"	.035"	.035"
Breaker Gap.....	.020"	.020"	.020"
Cam Angle.....	34-1/2° to 38°	34-1/2° to 38°	34-1/2° to 38°
Firing Order.....	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4
Timing—Crankshaft Degrees ...	2° BTC	2° BTC	2° BTC
Adv Deg—Centrif—Vac.....	20-16	20-16	20-16
Adv Begins—Ends—Eng rpm....	700-2850	700-2850	700-2850
VALVES			
Make and Material.....Int	Various Alloy Steels		
Exh	Silicon—Chromium Steel		
Tappet Ctr—Seat Angle.....Int	.010" H, 45°	.010" H, 45°	.010" H, 45°
Exh	.010" H, 45°	.010" H, 45°	.010" H, 45°
Exhaust Seat Inserts.....	Yes	Yes	Yes
CARBURETOR			
Make, Model.....	Ball & Ball (Carter)		
Size, Type.....	1-1/2" Sgl DD (Special)		
Floate Level.....	5/64" (1)	5/64" (1)	5/64" (1)
Choke Control.....	Automatic	Automatic	Automatic
ENGINE LUBRICATION			
Oil—Summer—Winter—SAE	See Plymouth Instruction Book		
Normal Oil Press—lb @ mph....	45 @ 45	45 @ 45	45 @ 45
Oil Filter—Type.....	None	ByP, RU	ByP, RU
CAPACITY			
Oil.....(qt)	5	5	5
Water.....(qt)	13	13	13
Transmission.....(pt)	2-3/4	2-3/4	2-3/4
Rear Axle.....(pt)	3-1/4	3-1/4	3-1/4
Gasoline.....(gal)	17	17	17
GENERAL DATA (5 Passenger Sedan)			
Wheelbase.....(in)	111	118-1/2	118-1/2
Over-all Lgth Incl Bumpers.(in)	188-1/8	193-7/8	193-7/8
Shipping Weight.....(lb)	2969 (2)	3104	3109
Tire Size—Recm Press.....(lb)	6.40x15-24-24 (3)	6.70x15-24-24	6.70x15-24-24
Rear Axle Ratio—Type.....	3.73 Hyp (4)	3.9 Hyp (5)	3.9 Hyp (5)

LOCATION CHASSIS SERIAL NO. Left Front Door Body Hinge Post

- (1) From top of float chamber without gasket to top of float.
- (2) Weight of two-door sedan; four-door sedan not available in this model.
- (3) Suburban and Savoy use 6.70x15-24-24.
- (4) 4.1 on two-door and coupe when equipped with overdrive; 4.3 on suburban and Savoy.
- (5) 4.3 with overdrive.

PONTIAC

CAR MODEL	25 Chieftain 6	27 Chieftain 8
ENGINE		
No. Cyl-Head Type.....	6-L	8-L
Bore and Stroke (in).....	3-9/16x4	3-3/8x3-3/4
Displacement (cu in).....	239.2	268.4
AMA Horsepower.....	30.4	36.4
Max Horsepower @ rpm.....	102 @ 3400 (1)	122 @ 3600 (1)
Max Torque, lb-ft @ rpm.....	194 @ 1400 (1)	227 @ 2200 (1)
Max bmep, lb/sq in.....	122.1 (1)	127.5 (1)
Head Material.....	Cast Iron	Cast Iron
Compression Ratio.....	7.7 (1)	7.7 (1)
Comp Press, lb/sq in @ rpm....	123-141 @ Cr Sp	123-141 @ Cr Sp
Piston Material.....	CNA	CNA
Bearing Material.....	Steel Backed Babbitt	
IGNITION		
Spark Plug—Factory Eqpt.....	AC 44-5	AC 44-5
Alternate.....	AL A7, Champ J-8	AL A7, Champ J-8
Spark Plug Gap.....	.025"	.025"
Breaker Gap.....	.022"	.016"
Cam Angle.....	35°	26°
Firing Order.....	1-5-3-6-2-4	1-6-2-5-8-3-7-4
Timing—Crankshaft Degrees ...	(2)	(2)
Adv Deg—Centrif—Vac.....	26-17	22-22
Adv Begins—Ends—Eng rpm....	600-4100	500-3760
VALVES		
Make and Material.....	Int Rich V Steel	Rich V Steel
Exh.....	Rich 2112 or TP Sil XB	
Tappet Clr—Seat Angle.....	Int .011" H, 30°	.011" H, 30°
Exh.....	.013" H, 45°	.013" H, 45°
Exhaust Seat Inserts.....	None	None
CARBURETOR		
Make, Model.....	RP BC	Car WCD-719-SA (3)
Size, Type.....	1-5/16" Sgl DD	1-3/16" Dual DD
Floater Level.....	1-17/64" (4)	3/16" (5)
Choke Control.....	Automatic	Automatic
ENGINE LUBRICATION		
Oil—Summer—Winter—SAE	See Pontiac Instruction Book	
Normal Oil Press—lb @ mph....	35-40 @ 40	35-40 @ 40
Oil Filter—Type.....	None	None
CAPACITY		
Oil.....(qt)	5	5
Water.....(qt)	18	19-1/2
Transmission.....(pt)	1-3/4 (6)	1-3/4 (6)
Rear Axle.....(pt)	3-1/4	3-1/4
Gasoline.....(gal)	17-1/2	17-1/2
GENERAL DATA (5 Passenger Sedan)		
Wheelbase.....(in)	120	120
Over-all Lgth Incl Bumpers (in)	202-1/2	202-1/2
Shipping Weight.....(lb)	3278 (7)	3378 (7)
Tire Size—Recm Press.....(lb)	7.10x15-24-24 (8)	7.10x15-24-24 (8)
Rear Axle Ratio—Type.....	4.1 Hyp (9)	3.9 Hyp (9)
LOCATION CHASSIS SERIAL NO.		
	Left Front Pillar Post	
(1) 7.7 compression ratio standard with all Hydra-Matic equipped cars; 6.8 compression ratio standard with conventional transmission with 7.7 optional. Power data given for 7.7 compression ratio.		
(2) Factory setting is 6° BTC for 6.8 compression ratio, 3° BTC for 7.7 compression ratio.		
(3) WCD-720-SA used with Hydra-Matic drive.		
(4) Bowl cover gasket to bottom of float using Kent-Moore Gauge J-4554.		
(5) Bowl cover to seam of float by use of Carter Gauge T-109-162.		
(6) Hydra-Matic drive requires approximately 11 quarts.		
(7) 125 pounds additional when equipped with Hydra-Matic drive.		
(8) 7.60x15 tires optional.		
(9) 3.08 with Hydra-Matic drive.		

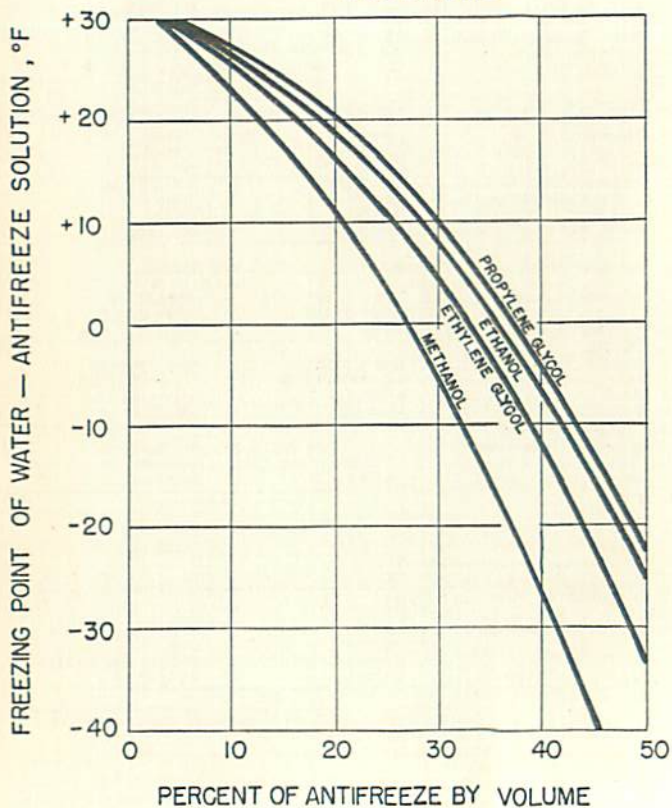
STUDEBAKER

CAR MODEL	Champion 12G	Commander 3H	Land Cruiser 3H
ENGINE			
No. Cyl-Head Type.....	6-L	V-8-I	V-8-I
Bore and Stroke (in).....	3x4	3-3/8x3-1/4	3-3/8x3-1/4
Displacement (cu in).....	169.6	232.6	232.6
AMA Horsepower.....	21.6	36.4	36.4
Max Horsepower @ rpm.....	85 @ 4000	120 @ 4000	120 @ 4000
Max Torque, lb-ft @ rpm.....	138 @ 2400	190 @ 2000	190 @ 2000
Max bmep, lb/sq in.....	122.8	127.5	127.5
Head Material.....	Cast Iron	Cast Iron	Cast Iron
Compression Ratio.....	7.0 (1)	7.0 (1)	7.0 (1)
Comp Press, lb/sq in @ rpm....	120 @ 150	120-140 @ 150	120-140 @ 150
Piston Material.....	AA	AA	AA
Bearing Material.....		Steel Backed Babbitt	
IGNITION			
Spark Plug—Factory Eqpt.....	Champion J-7	Champion H-8	Champion H-8
Alternate.....	AC 44, AL A5	AC 45L, AL AL5	AC 45L, AL AL5
Spark Plug Gap.....	.025"	.035"	.035"
Breaker Gap.....	.020"	.013" to .018"	.013" to .018"
Cam Angle.....	38° to 40°	22° to 29°	22° to 29°
Firing Order.....	1-5-3-6-2-4	1-8-4-3-6-5-7-2	
Timing—Crankshaft Degrees...	2° BTC	8° BTC	8° BTC
Adv Deg—Centrif—Vac.....	14-18	28-16	28-16
Adv Begins—Ends—Eng rpm....	800-2800	600-2900	600-2900
VALVES			
Make and Material..... Int	Rich or Eaton Chrome Nickel Steel		
Exh.....	2112	2112N	2112N
Tappet Clr—Seat Angle..... Int	.016" C, 45°	.014" to .016" C, 45°	.014" to .016" C, 45°
Exh.....	.016" C, 45°	.014" to .016" C, 45°	.014" to .016" C, 45°
Exhaust Seat Inserts.....	None	None	None
CARBURETOR			
Make, Model.....	Car WE 715S	Strom AAUVB-26	
Size, Type.....	1-1/4" Sgl DD	1-1/8" Dual DD	
Float Level.....	3/8" (2)	1/8" to 5/32" (3)	
Choke Control.....	Automatic	Automatic	Automatic
ENGINE LUBRICATION			
Oil—Summer—Winter—SAE....	See Studebaker Instruction Book		
Normal Oil Press—lb @ mph....	20-40 @ 40	20-40 @ 40	20-40 @ 40
Oil Filter—Type.....	None (4)	None (4)	ByP, RE
CAPACITY			
Oil.....(qt)	5	6	6
Water.....(qt)	10	17-1/4	17-1/4
Transmission.....(pt)	1.6 (5)	2.4 (5)	2.4 (5)
Rear Axle.....(pt)	2-1/2	3	3
Gasoline.....(gal)	18	18	18
GENERAL DATA (5 Passenger Sedan)			
Wheelbase.....(in)	115	115	119
Over-all Lgth Incl Bumpers.(in)	197-9/16	197-9/16	201-9/16
Shipping Weight.....(lb)	2695 (6)	3085 (7)	3155
Tire Size—Recm Press.....(lb)	6.40x15-26-24	7.10x15-26-22	7.10x15-26-22
Rear Axle Ratio—Type.....	4.10 Hyp (8)	4.09 Hyp (9)	4.09 Hyp (9)
LOCATION CHASSIS SERIAL NO. Left Front Door Lock Pillar Post			

- (1) 7.5 optional.
- (2) Between boss on bowl cover and far edge of float seam.
- (3) See Studebaker instruction book.
- (4) By-pass replaceable element oil filter optional equipment on Champion and Commander.
- (5) 2.75 with overdrive on Champion, 3.4 with overdrive on V-8's. Automatic transmission requires 9-1/2 quarts.
- (6) Deluxe 2720, Regal 2725. Add 40 pounds for overdrive, 105 pounds for Automatic drive.
- (7) State 3075. Add 40 pounds for overdrive, 80 pounds for Automatic drive.
- (8) 4.56 with overdrive; 4.10 with Automatic drive.
- (9) 4.55 with overdrive; 3.54 with Automatic drive.

CAR MODEL	6-75	6-85
ENGINE		
No. Cyl-Head Type.....	6-L	6-F
Bore and Stroke (in).....	3-1/8x3-1/2	3-1/8x3-1/2
Displacement (cu in).....	161.1	161.1
AMA Horsepower.....	23.44	23.44
Max Horsepower @ rpm.....	75 @ 4000	90 @ 4200
Max Torque, lb-ft @ rpm.....	124 @ 2000	135 @ 1600
Max bmep, lb/sq in.....	116.1	126.4
Head Material.....	Cast Iron	Cast Iron
Compression Ratio.....	6.9	7.6
Comp Press, lb/sq in @ rpm....	125 @ 185	135 @ 185
Piston Material.....	AA	AA
Bearing Material.....	Steel Backed Babbitt Lined	
IGNITION		
Spark Plug—Factory Eqpt.....	Champion J-8	Champion J-8
Alternate.....	AC 44, AL A7	AC 44, AL A7
Spark Plug Gap.....	.030"	.030"
Breaker Gap.....	.020"	.020"
Cam Angle.....	39°	39°
Firing Order.....	1-5-3-6-2-4	1-5-3-6-2-4
Timing—Crankshaft Degrees...	TDC	TDC
Adv Deg—Centrif—Vac.....	24-12	19-12
Adv Begins—Ends—Eng rpm....	700-3000	600-2600
VALVES		
Make and Material.....Int	3140	3140
Exh		2112 or 2155
Tappet Clr—Seat Angle.....Int	.016" C, 45°	.018" C, 45°
Exh	.016" C, 45°	.016" C, 45°
Exhaust Seat Inserts.....	None	None
CARBURETOR		
Make, Model.....	Car YF-937S	Car YF-924S
Size, Type.....	1-1/4" Sgl DD	1-1/4" Sgl DD
Float Level.....	9/32" (1)	9/32" (1)
Choke Control.....	Manual	Manual
ENGINE LUBRICATION		
Oil—Summer—Winter—SAE....	See Willys Instruction Book	
Normal Oil Press—lb @ mph....	35 @ 30	35 @ 30
Oil Filter—Type.....	None (2)	None (2)
CAPACITY		
Oil.....(qt)	5	5
Water.....(qt)	11	11
Transmission.....(pt)	1-1/2 (3)	1-1/2 (3)
Rear Axle.....(pt)	2	2
Gasoline.....(gal)	18	18
GENERAL DATA (5 Passenger Sedan)		
Wheelbase.....(in)	108	108
Over-all Lgth Incl Bumpers. (in)	181	181
Shipping Weight.....(lb)	2487	2571
Tire Size—Recm Press.....(lb)	5.90x15-24-24	5.90x15-24-24 (4)
Rear Axle Ratio—Type.....	4.1 Hyp	4.1 Hyp (5)
LOCATION CHASSIS SERIAL NO. Left Front Door Pillar		
(1) From top of float to bottom surface of float bowl cover without gasket.		
(2) By-pass replaceable element oil filter optional.		
(3) 3/4 pint additional with overdrive.		
(4) 6.40x15-24-24 optional.		
(5) 4.56 with overdrive; 3.85 available on special order.		

FREEZING POINTS OF WATER-ANTIFREEZE SOLUTIONS



APPROXIMATE ANALYSIS OF VALVE, VALVE FACING AND SEAT INSERT MATERIALS IN GENERAL USE

INTAKE VALVE STEELS

ELEMENT	SIL 1	SIL XB	SIL F	SAE	SAE	SAE	SAE**	SAE**
	%	%	%	%	%	%	%	%
CHROMIUM (CR)	0.5	2.0	2.3	23.8	12.0	19.0	14.0	15.0
NICKEL (NI)	—	1.5	4.7	3.7	12.0	19.0	14.0	15.0
CARBON (C)	0.45	0.75	0.45	0.38	0.25	0.38	0.25	0.38
SILICON (SI)	3.2	2.0	1.0 MAX	0.8	2.8	0.6	3.5	0.25 MAX
MANGANESE (MN)	—	0.4	1.0 MAX	3.7	1.4	1.0	0.7	0.8
MOLYBDENUM (MO)	—	—	2.7	1.3	—	—	—	—
TUNGSTEN (W)	—	—	—	—	—	—	—	—
OTHER	—	—	—	—	—	—	—	—
IRON (FE)	BAL.	BAL.	BAL.	BAL.	BAL.	BAL.	BAL.	BAL.

EXHAUST VALVE STEELS

ELEMENT	SIL 1	SIL XB	SIL 10	SIL X-142	FORD	B-312	21-4NS	2105
	%	%	%	%	%	%	%	%
CHROMIUM (CR)	0.5	2.0	2.3	23.8	12.0	19.0	14.0	15.0
NICKEL (NI)	—	1.5	4.7	3.7	12.0	19.0	14.0	15.0
CARBON (C)	0.45	0.75	0.45	0.38	0.25	0.38	0.25	0.38
SILICON (SI)	3.2	2.0	1.0 MAX	0.8	2.8	0.6	3.5	0.25 MAX
MANGANESE (MN)	—	0.4	1.0 MAX	3.7	1.4	1.0	0.7	0.8
MOLYBDENUM (MO)	—	—	2.7	1.3	—	—	—	—
TUNGSTEN (W)	—	—	—	—	—	—	—	—
OTHER	—	—	—	—	—	—	—	—
IRON (FE)	BAL.	BAL.	BAL.	BAL.	BAL.	BAL.	BAL.	BAL.

FACING MATERIALS

ELEMENT	STELLITE	STELLITE	EATONITE	X-702	NICHROME
	%	%	%	%	%
CHROMIUM (CR)	27.0	24.0	29.0	26.0	20.0
NICKEL (NI)	—	24.0	39.0	BAL.	BAL.
CARBON (C)	1.25	1.60	2.40	2.00	0.20
SILICON (SI)	2.7	1.3	1.0 MAX.	0.4	0.3 MAX.
MANGANESE (MN)	—	0.3	—	0.5 MAX.	0.8
MOLYBDENUM (MO)	—	—	—	—	—
TUNGSTEN (W)	4.0	12.5	15.0	9.0	—
COBALT (CO)	63.0	37.0	10.0	1.0 MAX.	—
OTHER	—	—	—	—	—
IRON (FE)	2.0	0.7	8.0 MAX.	1.0 MAX.	—

NOTES: 1. FERRITIC OR MARTENSITIC (MAGNETIC)

2. SIGMA PHASE (SLIGHTLY MAGNETIC)

3. AUSTENITIC (NON MAGNETIC)

4. NON FERROUS ALLOY (NON MAGNETIC)

5. CAST IRON (MAGNETIC)

* 212N HAS SAME COMPOSITION WITH 0.20 TO 0.25% NITROGEN

** FORMERLY NATIONAL EMERGENCY STEEL WITH PREFIX "NE" INSTEAD OF "SAE"

SEAT INSERT MATERIALS

ELEMENT	STELLITE	EATONITE	CHROME-MOLY	SPARTA	SAE	SIL XB	VSM
	%	%	%	%	%	%	%
CHROMIUM (CR)	27.0	29.0	3.0	5.2	3.5	21.0	3.0
NICKEL (NI)	—	39.0	—	—	—	1.5	—
CARBON (C)	1.25	2.40	2.20	1.00	0.55	0.75	0.65
SILICON (SI)	2.7	1.0 MAX.	1.8	0.4	0.2	2.0	1.0
MANGANESE (MN)	—	—	0.6	0.5	0.3 MAX.	0.4	0.6
MOLYBDENUM (MO)	—	—	3.5	1.3	—	—	5.0
TUNGSTEN (W)	4.0	15.0	—	—	14.0	—	—
COBALT (CO)	63.0	10.0	—	—	—	—	—
OTHER	—	—	—	—	—	—	—
IRON (FE)	2.0	8.0 MAX.	BAL.	BAL.	BAL.	BAL.	BAL.

ETHYL CORPORATION

AUTOMATIC AND SEMI-AUTOMATIC TRANSMISSIONS

(Transmissions Listed in Order of Their Introduction Dates)

Overdrive (Borg Warner Corporation)

Available on DeSoto, Ford, Hudson, Henry J., Kaiser, Lincoln, Mercury, Nash, Packard, Plymouth, Studebaker and Willys. It consists of a planetary gearset and one-way clutch used behind a conventional three-speed transmission. The shift is controlled electrically according to car speed and is actuated by the accelerator. The driving ratio reduction is 30%.

Hydra-Matic (Detroit Transmission Division GMC)

Available on Cadillac, Hudson, Kaiser, Lincoln, Nash, Oldsmobile and Pontiac. This transmission consists of a fluid coupling with three planetary gearsets providing four forward speeds and reverse. The shifts are automatic and vary with car speed and accelerator position. Ratios are as follows: first, 3.82:1; second, 2.63:1; third, 1.45:1; fourth, 1:1.

Fluid Drive (Chrysler Corporation)

Used on Chrysler, DeSoto and Dodge. It consists of a semi-automatic four-speed constant-mesh transmission with a fluid coupling and a dry-disc clutch. Either of two forward ranges are selected manually when the foot clutch is disengaged. Shifting between the two ratios in each speed range is controlled by the accelerator pedal at the driver's option at speeds above governor speed. Ratios are as follows: first, 3.57:1; second, 2.04:1; third, 1.75:1; fourth, 1:1.

Dynaflow (Buick)

This transmission consists of a five-element torque converter (two pumps, one turbine and two stators) with a multiple pinion planetary gearset providing low and reverse ratios. The maximum torque multiplication of the converter is 2.25:1 and no additional gearing is used for normal forward driving. The drive is always through the converter. Low range (1.82:1 gear ratio) can be manually engaged at any throttle position for extra pulling power and engine braking.

Ultramatic (Packard)

This transmission is composed of a four-element torque converter (one pump, two turbine members and a stator), a multiple pinion planetary transmission to provide low and reverse, and a direct drive clutch. The maximum torque multiplication of the converter is 2.4:1 and it is used only for accelerating. The direct drive clutch locks the pump and turbine together into a solid drive for part throttle operation. The shift to direct drive is controlled automatically by the car speed and accelerator position. Low range (1.82:1 gear ratio) can be manually engaged for extra power or engine braking.

Powerglide (Chevrolet)

The Powerglide transmission used on the Chevrolet has a five-element torque converter with a multiple pinion planetary transmission to pro-

vide low and reverse gears. The maximum torque multiplication of the converter is 2.2:1 and no gear changes are required for normal driving. The drive is always through the converter. Low range (1.82:1 gear ratio) can be manually engaged at any throttle position for extra pulling power or engine braking.

Studebaker Automatic Transmission

This transmission has a three-element torque converter, a direct drive clutch and two planetary gearsets providing three forward speeds and reverse. Normal drive starts through the torque converter and intermediate gear ratio and shifts to solid direct drive depending on car speed and throttle opening. The torque converter has a maximum ratio of 2.15:1 and the gear ratios are as follows: first, 2.31:1; second, 1.43:1; third, 1:1. Low range can be manually engaged for extra pulling power or engine braking.

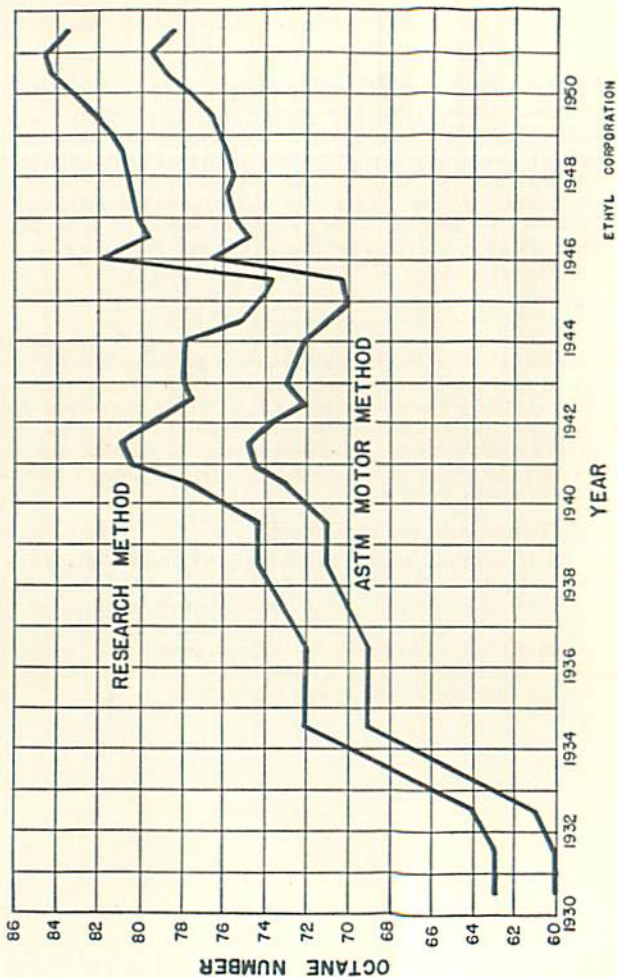
Fordomatic and Merc-O-Matic (Ford and Mercury)

This transmission is composed of a three-element torque converter and a multiple pinion planetary gear system to produce three forward speeds and reverse. The drive is always through the converter which has a maximum torque multiplication of 2.1:1. Normal drive starts through the torque converter and intermediate gear ratio (1.48:1) and automatically shifts to converter only, depending on throttle opening and car speed. Low range (2.44:1 gear ratio) can be manually engaged for extra pulling power or engine braking.

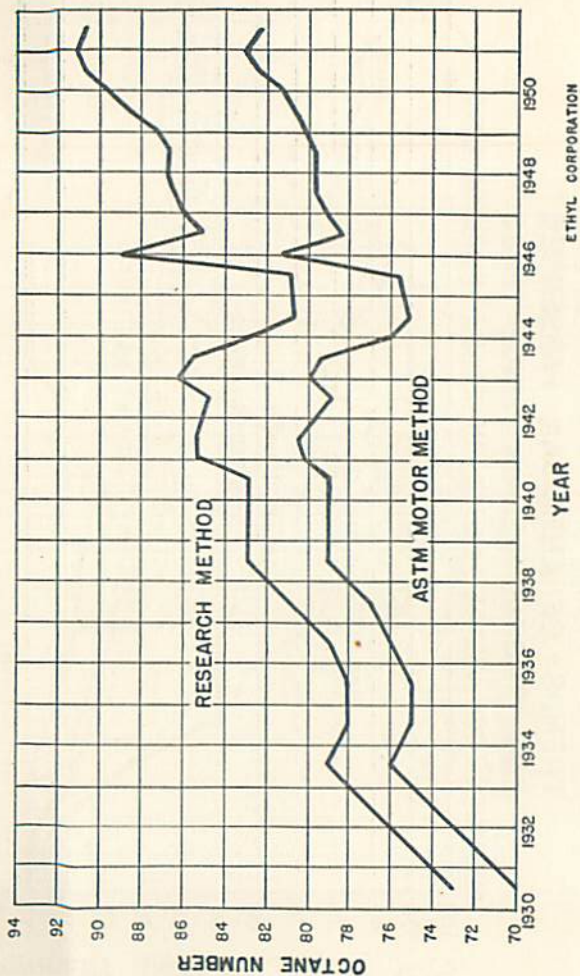
Fluid-Torque (Chrysler Corporation)

This transmission is used on the Chrysler 6 and V-8 and the DeSoto V-8 passenger cars. It consists of a four-element torque converter with the M-6 semi-automatic four-speed constant mesh transmission described under Fluid Drive. The torque converter has a maximum torque multiplication of 2.34:1 and the drive is always through the converter. Ratios used in this transmission with the torque converter are first, 3.28:1; second, 2.04:1; third, 1.61:1; and fourth, 1:1.

TREND IN ANTIKNOCK QUALITY OF REGULAR GASOLINES SOLD IN THE UNITED STATES

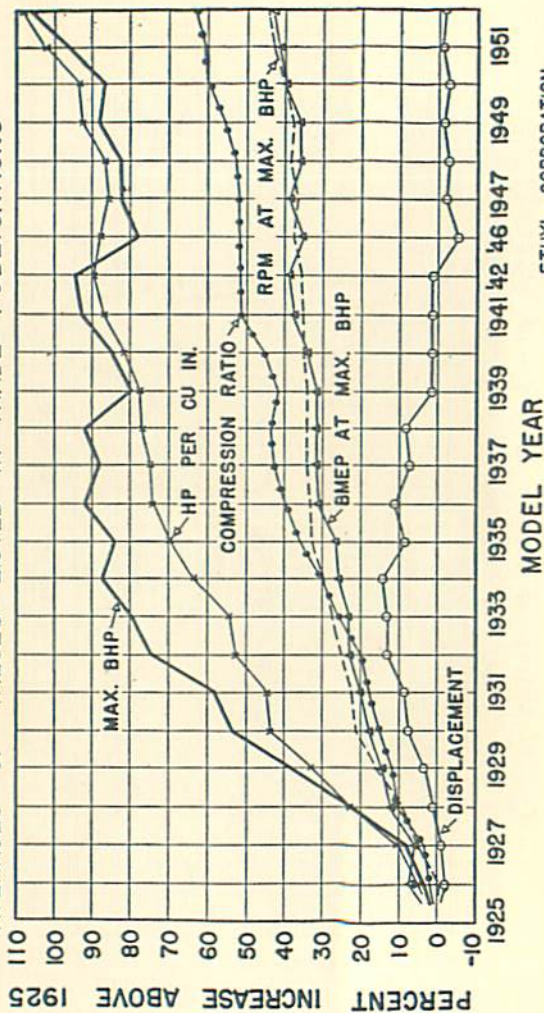


TREND IN ANTIKNOCK QUALITY OF PREMIUM GASOLINES SOLD IN THE UNITED STATES



TRENDS OF AMERICAN PASSENGER CAR ENGINE DESIGN SINCE 1925

AVERAGES OF VALUES LISTED IN TRADE PUBLICATIONS



ETHYL CORPORATION

MODEL YEAR

